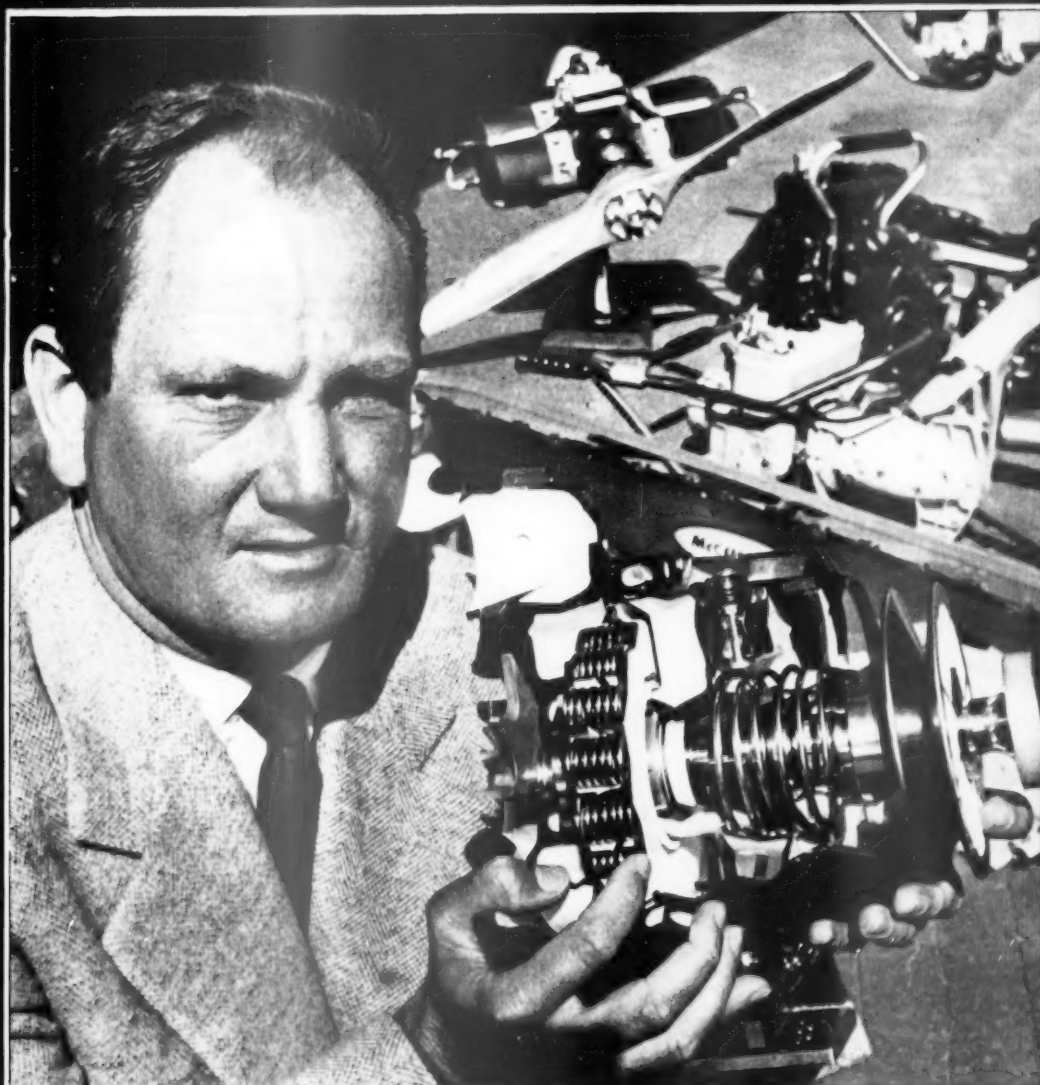


BUSINESS WEEK

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What Makes
People Buy?
PAGE 40



Robert P. McCulloch: Chain saws, superchargers—and a fat profit (page 158)

←
INDEX
YEAR
AGO

A MCGRAW-HILL PUBLICATION

SEPT. 5, 1953

TWENTY-FIVE CENTS

THERE'S A TOUCH OF **TENNESSEE** IN **FOUNDRIES**



*Here is more precision and efficiency for foundry operations in the form of **TENNESSEE** Silicon-Manganese Briquettes. These cubes, containing exact quantities of silicon and manganese, make it easy to control accurately the alloy content of cupola charges. No weighing is necessary.. each briquette contains one-half pound of silicon and two pounds of manganese. Just count 'em to suit the charge and toss 'em in.*

*For the foundry field, **TENNESSEE** also produces Ferro-Silicon and Ferro-Manganese in lump, crushed and briquette forms.. Tenn-Sil additive for molding sand.. low-phosphorus and malleable pig iron .. all keys to lower costs and improved products.*

*The products of **TENNESSEE** serve many industries everywhere. That's why **TENNESSEE** is known as an industry serving all industry.*



TENNESSEE
PRODUCTS & CHEMICAL

Corporation
NASHVILLE, TENNESSEE.

Producers of: FUELS • METALLURGICAL
PRODUCTS • TENSULATE BUILDING
PRODUCTS • AROMATIC CHEMICALS
WOOD CHEMICALS • AGRICULTURAL
CHEMICALS

RESEARCH KEEPS

B.F. Goodrich

FIRST IN RUBBER



Wet, slippery gravel climbs uphill on steps of rubber

A typical example of B. F. Goodrich improvement in rubber

GETTING tons of gravel up that steep incline was causing plenty of trouble at this plant. A conveyor belt was used but the gravel is so wet it often slipped *down* faster than the moving belt could carry it *up*.

Then a B. F. Goodrich man told the company that BFG had developed a special belt, called Riffle Grip, to meet just such problems. Its cover has a series of extra-tough rubber steps, molded into the cover, which give the belt its nonslip, gripping action. The patented Riffle Grip belt was tried at

the gravel company, and as you see, it works perfectly.

Even at the high belt speed needed to move 1200 tons an hour, the rubber tread holds the gravel safely, surely. The water runs off to the sides. Yet just by changing the incline angle and adjusting the troughing idlers, this same BFG belt can haul such sloppy materials as wet mixed concrete and keep the water from draining away.

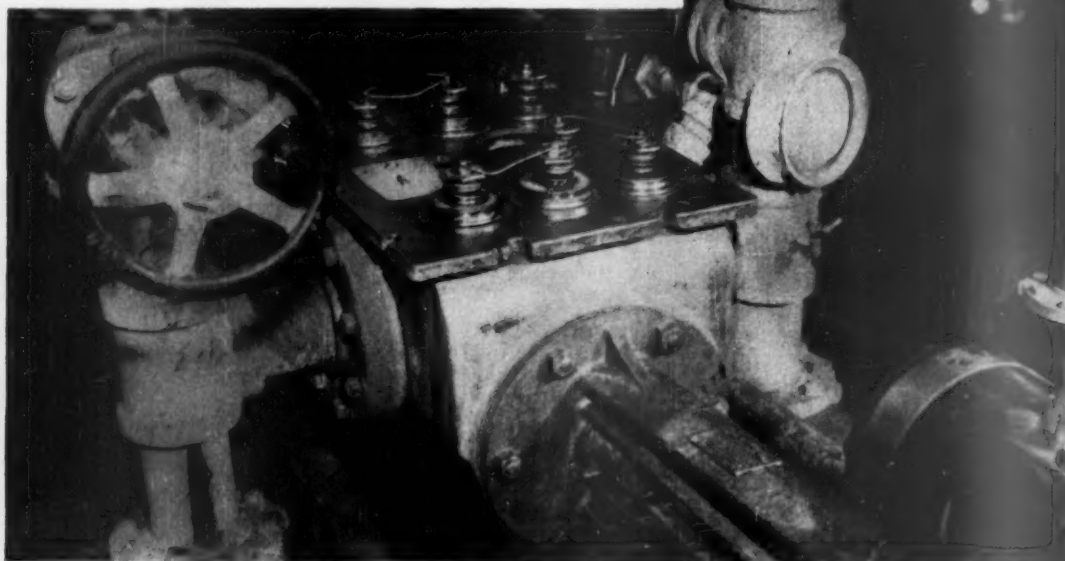
The B. F. Goodrich Riffle Grip belt is now at work in other gravel plants, on gold dredges, in concrete plants and

other places where wet, sloppy materials must be carried up steep grades. It's making many mining and construction jobs cheaper, more efficient. To get further information on the unusual Riffle Grip belt or any other industrial rubber product, call in your nearest BFG distributor or write The B. F. Goodrich Company, Department M-88, Akron, Ohio.

B.F. Goodrich
INDUSTRIAL PRODUCTS
DIVISION

Tar-Pump Equipped with Ni-Resist Valves. Developed, produced and guaranteed for three years by the SIMS PUMP VALVE COMPANY, INC., of Hoboken, New Jersey, these valves give more than four years of useful service under severe operating conditions. After re-facing, the first set of

Ni-Resist valves gave several additional years of use. Tar-pump valve cleaning at Brooklyn Union is now done annually, fouling is eliminated, and 25 percent more capacity as well as speed-up has been added . . . thanks to nickel alloyed iron trade-named Ni-Resist.



8 times the life of gray iron valves plus 25% more capacity obtained by using Ni-Resist*

Here's another instance that shows how metal containing nickel can prolong the useful life of your products or equipment.

In this tar-pump at the Brooklyn Union Gas Company, conventional valves of bronze lasted only weeks and gray cast iron valves lasted less than six months. Almost daily they fouled up and compelled dismantling of the pump for cleaning . . . a four hour job requiring two men, often at inconvenient periods and overtime rates.

This trouble and expense ended, however, upon installation of specially designed Ni-Resist® valves.

An altogether different problem may confront you, but like Brooklyn Union Gas, you will find that surprising economies result from using a

suitable nickel alloy. Nickel combined with other metals improves strength, hardness, toughness and resistance to wear, shock, fatigue and corrosion.

We shall be glad to advise you on the use of nickel or nickel alloys in your products or equipment . . . help you find practical answers to your metal problems. Send us details for our suggestions.

At the present time, nickel is available for end uses in defense and defense supporting industries. The remainder of the supply is available for some civilian applications and governmental stockpiling.

**No other cast metal provides such a useful combination of engineering properties.*



THE INTERNATIONAL NICKEL COMPANY, INC. 67 Wall Street
New York 5, N.Y.

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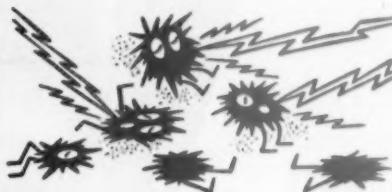
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AIR-MAZING FACTS

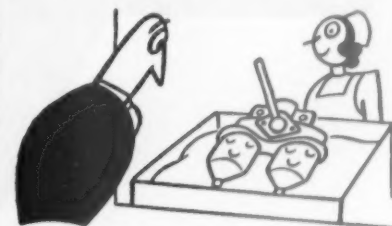
BY O. SOGLOW



DUSTER A MUST FOR SPACEMEN. Our interplanetary pioneers may bring back the duster coat early motorists wore. There's as much dust and gas in space as there is in the planets and stars themselves.



WHERE ELECTRICITY KILLS DUST! Electromaze® electronic air filters literally shock dust and smoke out of the air with an electric charge. Used wherever super-clean air is needed. "File drawer" design makes Electromaze easier and less expensive to install, easier to clean.



IT'S TWINS! No need for shutting down production when oil line filters need cleaning. With a new Air-Maze duplex oil filter on the job you can clean one "twin" at a time, while oil continues to flow through the other.

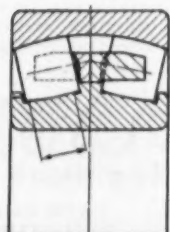
WHETHER YOU BUILD OR USE engines, compressors, air-conditioning and ventilating equipment, or any device using air or liquids—the chances are there is an Air-Maze filter engineered to serve you better. Representatives in all principal cities, or write Air-Maze Corporation, Cleveland 28, Ohio.

AIR-MAZE

The Filter Engineers

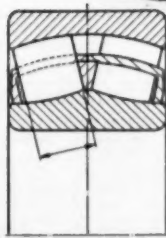
AIR FILTERS
SILENCERS
SPARK ARRESTERS

LIQUID FILTERS
OIL SEPARATORS
GREASE FILTERS



BEARING 22315

This is the Spherical Roller Bearing design originated by **SKF** more than thirty years ago. The cross-section shows how the integral inner ring flanges, and the undercuts adjacent thereto, limit the effective length of the rollers.



BEARING 22315-C

Here is the *latest* **SKF** improvement, a *revolutionary advance in design*. Effective roller guiding is accomplished by means of a separate ring. This eliminates the need for undercuts! This type of guide ring permits the rollers to take the position which their contact with the rings dictates. This assures uniform load distribution over the entire length of the longer rollers at all times. *Result* — greatly increased capacity and life.

*Another **SKF** "first"*

Now, an **SKF improvement
in the internal design
of Spherical Roller Bearings provides**

25% to 50% increased capacity

2 to 3½ times increased service life

Two things have made this new development possible.

First, years of progressive engineering by **SKF** — *originators* of the Spherical Roller Bearing.

Second — and equally important — the co-operation of **SKF** customers who, over a four year period, helped *prove* these performance facts by using thousands of these bearings in their own equipment.

This engineering teamwork between **SKF** and all industry is an important reason why industry *prefers* **SKF**.

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
— *manufacturers of **SKF** and HESS-BRIGHT bearings.*



SKF[®]
BALL AND ROLLER BEARINGS

Your design engineers can get complete technical data about these and additional advantages of **SKF** improved Spherical Roller Bearings by asking for **SKF** Bulletin No. 365-3.





SLOW DOWN, SISTER— ANOTHER ELEVATOR'S READY

In heavy-traffic buildings Westinghouse Selectomatic with Automatic Traffic Pattern Control is *continuously* alert to every passenger's whim. During the morning rush—at noon—at five—24 hours a day—this new, completely automatic control adjusts and readjusts itself as the traffic dictates.

It outdates predetermined clock or starter dial settings required in all previous supervisory systems. Automatic Traffic Pattern follows *any* changing traffic demand far more efficiently . . . turns starters into building good-will ambassadors . . . keeps traffic moving.

Automatic Traffic Pattern Control can be added to existing elevators to make them ultra-modern and it's ideal for new construction—with or without car attendants.

Find out more about Westinghouse Automatic Traffic Pattern Control by calling our nearest office.

Westinghouse Elevators

PASSENGER AND FREIGHT ELEVATORS • ELECTRIC STAIRWAYS
PROTECTIVE MAINTENANCE AND SERVICE

YOU CAN BE SURE...IF IT'S **Westinghouse**
J-98683



Towmotor "hits the spot" with a pallet load of syrup at plant of East Chicago (Indiana) Pepsi-Cola Co.

PALATABLE LOAD

Palletable or palatable—it makes no difference whether you're in hard goods or soft drinks, Towmotor is the best way to move your materials, more ways, more quickly, with less labor. That's the responsibility of the man in charge of *your* materials handling. He deserves the equipment he wants, to meet this responsibility.

You'll agree when you see the new Towmotors. There's Power Steering to guide heaviest loads safely over roughest ground. And new "Cushioned Power" Diesels that give you more power with lower fuel cost. Plus dozens of other Towmotor features that will save you more money for more years. Send today for free booklet, "How to Catch Man-Hour Thieves." TOWMOTOR CORPORATION, Div. 209, 1226 East 152nd Street, Cleveland 10, Ohio.



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TOWMOTOR ENGINEERED FOR QUALITY PERFORMANCE

GET YOUR
MATERIALS
HANDLING
FACTS
FIRST HAND!

READERS REPORT

Things to Come

Dear Sir:

Congratulations on your courage in tackling a special report on Tomorrow's Management [BW—Aug. 15 '53, p158].

As one who has spent a large part of the last twenty years working on this vitally important subject, I consider this report a good start, but you have had to paint with broad strokes and skirt around some of the questions that must be answered before we can clearly see the road ahead.

In my opinion the most controversial single part of this whole subject that should be settled at this time is whether or not business management will, or ever can, become enough of an exact science to entitle the managers of the future to use the title "professional management" to which you refer in your last paragraph.

Isn't it a fact that many business leaders are beginning to wonder whether the current over-glorification of the chosen few as professional management is having a bad effect on the morale of top production and marketing men who, in the final analysis, must produce the real profit for any business?

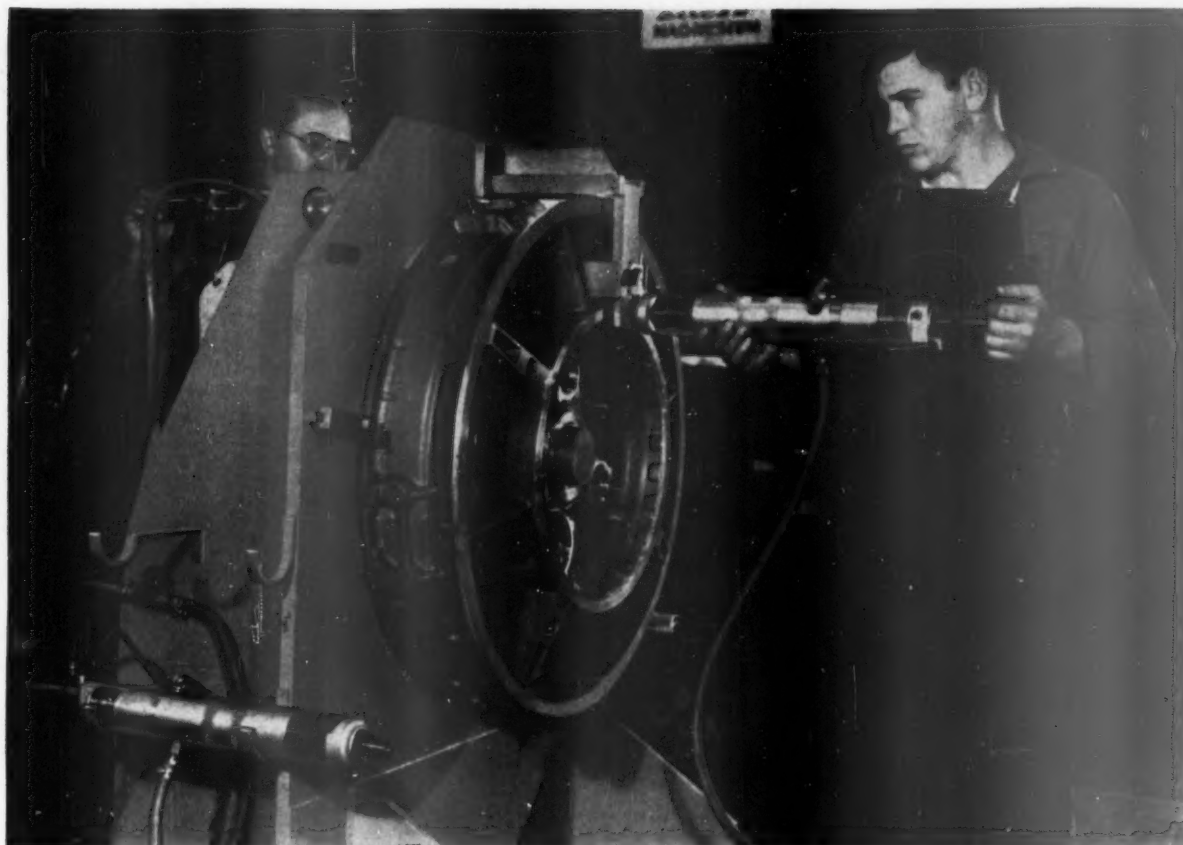
Isn't it true that many of the large organizations are finding it difficult to absorb and handle the output of some of our business schools who are preaching the doctrine of professional management?

Obviously, automation will continue to eliminate the problem of handling people in certain highly technical basic industries, but I wonder what percentage of the total business community can look forward to that possibility.

Isn't it a fact that many of our business leaders are beginning to wonder whether it wouldn't be better to de-emphasize the professional aspect of management and concentrate on attempting to train better practitioners in the arts of business administration? This, as you pointed out in the report, emphasizes the importance of having smaller business units available as training schools for big business.

One of the most serious problems confronting any management, whether today or tomorrow, is the whole area of public service in relation to social responsibility at the community, state and national levels. The owners of small businesses in local communities do a wonderful job in this area, but as we get over into the area of big business the subject becomes beclouded with job responsibilities versus social responsibilities.

Again, you have made a fine start,



HOLES THAT SHOW OTHER HOLES WHERE TO GO

ANOTHER EXAMPLE

of KELLER Air Tools engineered to industry

The high degree of precision with which jet engine parts are machined is achieved by gauging all subsequent operations from two locating holes which are drilled first.

Since the accuracy of the locating holes determines, to a considerable extent, the accuracy of the finished job, they must be drilled and reamed to close size and location tolerances.

That is the work being done in the photograph above, which

shows the engine frame clamped in a simple drilling fixture.

Airfeeddrills attach with a bayonet lock to bushings which are built into the fixture. A quarter turn of the tool locks it so that it is rigid and self-supporting. When a control valve is pressed, the Airfeeddrill goes through a complete drilling cycle—it automatically advances, drills (or reams), retracts, and shuts off.

Two operators work simultaneously, but independently, at front and back. Each has two

Airfeeddrills — one fitted with a drill, and the other with a reamer. When not in use, the Airfeeddrills rest in racks at each side of the fixture.

Keller Airfeeddrills were selected for this task because of their extreme accuracy and light weight, and the low investment required compared to other methods of precision drilling.

These and other Keller Air Tools are helping thousands of manufacturers increase the speed and accuracy of production, and reduce costs. Are you acquainted with the Keller representative near you?



DRILLS • SCREW DRIVERS • NUT SETTERS • GRINDERS • RIVETERS
AIR MOTORS • AIR HOISTS • AIRFEEDDRILLS

KELLER TOOL COMPANY, GRAND HAVEN, MICH.

**Instant Contact...
Complete Surveillance...
Immediate Control...**



PHILCO Microwave

ECONOMICAL • PRIVATE • RELIABLE

Modern executives are using Philco Microwave to increase plant efficiency and lower operating costs. Philco Microwave provides communication, supervisory and control facilities for almost every geographically dispersed industry. Pipelines, telephone and telegraph companies, public utilities and others use Philco Microwave for control of equipment and machinery, signalling, remote metering, telephone and teletype. Railroads use Philco Microwave for voice communication, telegraph, teletype and even train dispatching . . . all this over hundreds of miles without costly and vulnerable wire lines. Every day new industries are learning how Philco Microwave can help them do a job more efficiently and more economically. Can Philco Microwave help you in your business? Mail the coupon below for full information.



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PHILCO CORPORATION

Philadelphia 44, Pa.

Without obligation, please send full information on PHILCO Microwave.

NAME _____ TITLE _____

COMPANY NAME _____

ADDRESS _____

Please check the application that interests you

- ☐ Telephone
- ☐ Telegraph
- ☐ Teletype
- ☐ Facsimile
- ☐ Radio

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- ☐ Machinery Control
- ☐ Processing Control
- ☐ Switching Control

- ☐ Dispatching
- ☐ Telemetering
- ☐ Recording
- ☐ Fault Alarm
- ☐ Signalling

and I hope you will keep up the good work.

EDWARD MCSWEENEY

TREASURER

PERKINS-GOODWIN CO.

NEW YORK, N. Y.

Dear Sir:

Your Report to Executives . . . was the most interesting and thought-provoking article that I've had the pleasure of reading in some time. Although our firm is in the service field, I feel that this report would form an excellent point of departure for future specialized planning along our particular line of work. . . .

W. DOUGLAS POTTER

CHECKMASTER SYSTEMS, INC.

NEW YORK, N. Y.

Initially Speaking

Dear Sir:

The commissioners and staff of the Federal Communications Commission must have been very distressed to learn from your Aug. 15 issue (page 115) that their prerogatives have been usurped by the Federal Trade Commission.

On the other hand, everyone else has had something to say about color TV so why shouldn't the FTC?

IRL T. NEWTON, JR.

HADDONFIELD, N. J.

• We mixed up FTC and FCC.

Added Saving

Dear Sir:

Your article—Building a Summer Market for Bottled Gas on Farm—in your Aug. 15 issue (page 52) was very interesting.

However, it would be very hard to convince many farmers that "the saving is in the fuel cost," when they operate their tractors two to three times as long between major overhauls and run their lubricating oil up to three times as long between drains.

D. P. BRESSE

SALES ENGINEER

PHILLIPS PETROLEUM COMPANY

ST. LOUIS, MO.

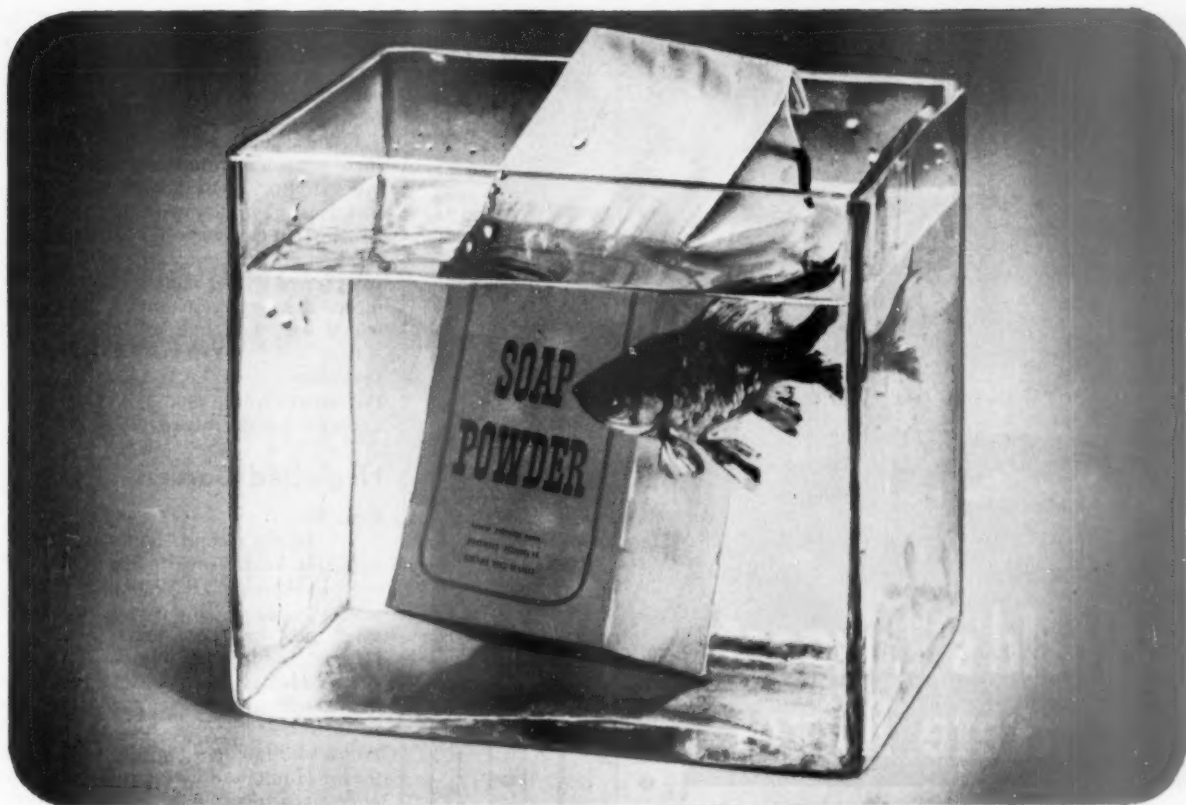
Glass Yarn

Dear Sir:

We have read with interest your article on page 116 in the June 27 issue . . . entitled Insect Screen of Glass. . . .

The article infers that the vinyl plastic coated glass yarn is a development made by Owens-Corning Fiberglas Corp. This is not so, because it was originally developed by us at Chemo-Textiles, Inc. . . .

You might also be interested to know that well over a year ago, samples of screening made from our vinyl coated



NEW WAY to keep a powder dry

—and save on packaging costs

This picture idea may be all wet—but the powder isn't. It's still dry and fresh—for a very important reason. The laminated bag is lined with moisture-resistant PLIOFILM.

PLIOFILM makes a perfect heat-seal at a wide range of temperatures and the weld is as tough and durable as the rest of the package itself.

In addition, PLIOFILM's unique ability to control moisture makes it possible to package so many different products in economical, easy-to-handle

bags. Really moisture-sensitive products like soap flakes, chocolate powder, spices, pancake mix.

Coffee roasters, too, have adopted the PLIOFILM lined bag with enthusiasm. For in distribution cost alone, it saves 50% over metal-type containers. And it keeps coffee fresh and fragrant far longer, eliminates losses on stale coffee.

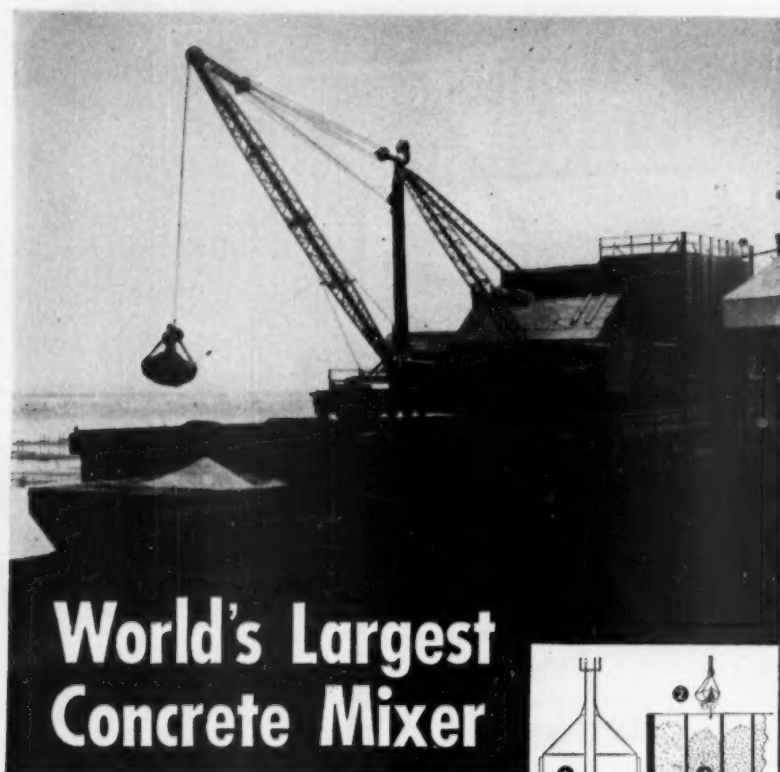
PLIOFILM is strong, tear-resistant, nontoxic. It can do a terrific job for any product whose quality depends on keeping moisture in or out. Why not put it to work for you? For information, write the Goodyear Packaging Engineer, Pliofilm Dept. I-6410, Akron 16, Ohio.



Good things
are better in

Plioilm

Plioilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio
3-way protection against air, moisture, liquids
We think you'll like THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network



World's Largest Concrete Mixer

...makes 12 tons in 90 seconds!

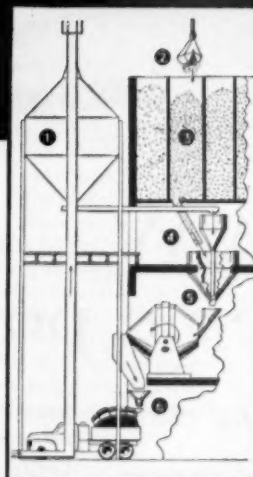
That's the production schedule set by Diethers, Ltd., Vancouver, Can., to supply the growing building boom in British Columbia.

And to maintain this 480-ton-an-hour output, Diethers had to be assured of a fast, continuous flow of aggregate from barge to mixer.

They have the answer in their dependable American Stiffleg Derrick. Powered by an American Model 140 Hoist, the rail mounted derrick quickly transfers materials from barges to bunkers high atop the mixer—7 tons at a time!

The speed and power needed for this operation is typical of equipment designed and built by American Hoist. In your business, too, you will find that the ability of American products to take the most difficult job in stride is built in.

Mail the coupon today for your copy of the American Crosby Clipper, the magazine that gives you interesting, factual, on-the-job stories.



1. Cement storage silo
2. American Stiffleg Derrick places
3. Aggregates in bunkers
4. Mixing controls
5. Tilting mixer
6. Concrete loaded into truck mixers

American Hoist and DERRICK COMPANY

American Hoist & Derrick Company
St. Paul 1, Minnesota

Yes, I'd like to get the American CROSBY CLIPPER.

Also, send information on the following equipment:

— Hoists — Derricks — Cranes — Portable Elevators
— Wire Rope Clips

Name _____ Title _____

Firm _____

Address _____

City _____ Zone _____ State _____



Send coupon today!

glass yarns were tested by the U.S. Corps of Engineers, and that over two years ago private exposure tests were being made of this same product in Bermuda. . . .

Fabrics for seat covers made from these yarns are stimulating considerable interest also. These fabrics will neither shrink, stretch, nor will they be damaged by contact with lighted cigarettes. Cleaning these fabrics can be easily accomplished with a damp cloth; furthermore, they will resist most substances which will stain ordinary fabrics. . . .

WILLIAM J. HARRISON

MANAGER

CHEMO-TEXTILES, INC.

CROMPTON-WEST WARWICK, R. I.

Neglected Garden

Dear Sir:

. . . In the second column of the article, He Sold 1-million Garlic Presses—Sight Unseen [BW—Aug. 8'53, p. 58] . . . you state, "But the landslide of small ads in the shelter magazines (House and Home, House Beautiful, Better Homes and Gardens, and the like) testifies to the fact that it's a very popular way to buy. . . . Instead of House and Home, I am sure your writer meant House and Garden. David Margulies . . . doesn't advertise in House and Home at all. Also I don't believe that House and Home is considered one of the so-called shelter books. . . . Rather House and Home is a business publication. . . .

EDWARD S. COOKE

DIRECTOR

CLASSIFIED ADVERTISING

THE CONDE NAST PUBLICATIONS, INC.

NEW YORK, N. Y.

• This was one of those things—the editor misread his notes.

. . . The Twain Shall Meet

Dear Sir:

We read with enthusiasm your report on Reaching India by Radio [BW—Aug. 8'53, p. 104] for, aside from the fact that we are the U.S. office of both Radio Ceylon and Radio Goa, your report was unusually accurate and informative.

In addition to commercial accounts, it is interesting to note that many of the best known religious programs of the U.S. are aired over both Ceylon and Goa, and the mail response attests to the strides Christianity is making through missionaries abetted by radio.

Powerful Radio Ceylon, using four transmitters, sends these into India-Pakistan, Ceylon, Southeast Asia and Africa.

VAN MITCHELL

PAN AMERICAN BROADCASTING COMPANY
NEW YORK, N. Y.

**THE *Automatic* ANSWER
TO TEMPERATURE**

Control Problems



**JOHNSON
EXPERIENCE**

Two-thirds of a century of engineering familiarity with all types of heating and air conditioning systems, large and small, accounts in part for the high esteem architects, engineers and management hold for Johnson Service.

**KNOWING HOW
TO DO IT**

Mainly, however, it is the day-by-day successes of the nationwide staff of Johnson engineers in anticipating and solving every conceivable control problem that has gained for the Johnson organization the reputation of *knowing how to do it*.

**PAYS OFF
FOR OWNERS**

Techniques and engineering skill which have been applied by Johnson to the heating and air conditioning control problems of world-famous buildings are readily available to all classes and sizes of buildings, old or new. Enjoy the best. It's *how* it's done that pays off for owners!



Let an experienced engineer from a nearby Johnson branch prove to you the advantages of Johnson Control for your building. Johnson Service Company, Milwaukee 2, Wis. Direct branch offices in principal cities.



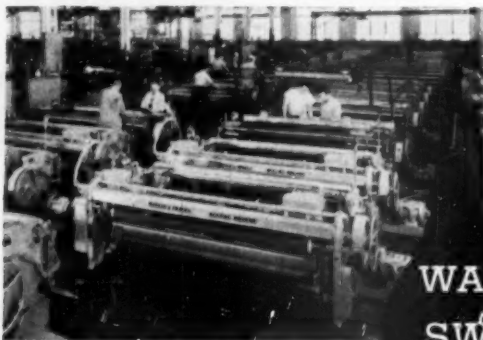
JOHNSON *Automatic Temperature and*
MANUFACTURING • PLANNING • INSTALLING • SINCE 1885 *Air Conditioning* **CONTROL**

“—if the Germans would sleep later”

A COUNTRY IN EUROPE (let's call it "X") isn't doing as well as its harder working, more self-denying neighbors, the Germans.

A woman in "X", jealous of the Germans' prosperity and her own country's lack of it, said, "We'd be all right if the Germans would only sleep an hour later every morning."

But she is wrong. Even borders, treaties, foreign aid and international plans cannot change for long the rule that the more you produce, the more you will have; the less you produce, the less you will have—whether you are a nation, an industry or an individual worker at a machine.



Weaving Machine assembly line

**WARNER
&
SWASEY**

Cleveland

PRECISION
MACHINERY
SINCE 1880

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

ON THE "LIGHTER" SIDE WITH ATLAS PRODUCTS

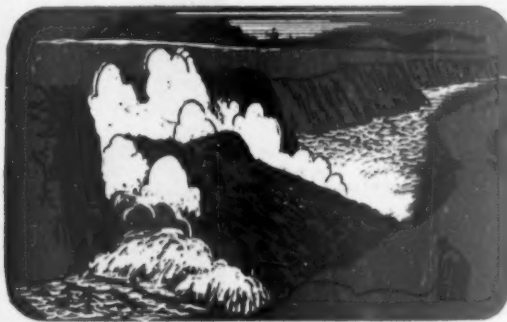


Light and color are among man's most useful servants. Atlas chemicals, finishes and explosives help to bring them into homes and plants in a host of ways. Perhaps these versatile materials, and the technical assistance of Atlas specialists in applying them, can prove valuable to you, too.



Atlas emulsifiers stabilize "wax" window cleaners

Polishes that leave a high gloss on windows, mirrors and porcelain stay ready to use when they're made with Atlas emulsifiers. These "good mixers" produce emulsions that won't separate out in storage.



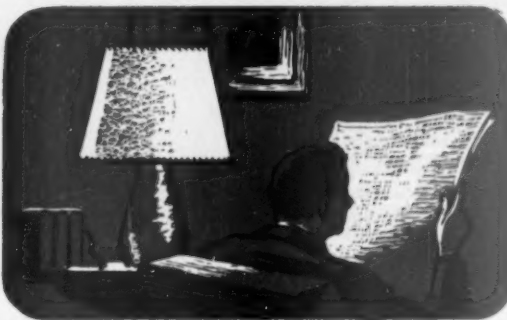
ROCKMASTER® explosive methods speed building of power dams

Atlas explosives and Atlas-developed ROCKMASTER blasting techniques give construction men an efficient way to move tons of rock for damming or diverting streams to make electrical power.



ZAPON® finishes cover walls with lasting brightness

Industrial and institutional interiors look better and money is saved, when walls are painted with colorful, durable ZAFLO® maintenance finishes. In the home, appliances and kitchen cabinets are lastingly beautiful because of ZAPON enamels used by their manufacturers.




ATLAC® polyester resins—for clear, bright plastic lamp shades

Smooth, even light comes through glass-fiber-reinforced lamp shades which use ATLAC dry polyester resins with the fibers. Easy-to-handle ATLAC resins give a high lustre without fiber show-through.

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Industrial
Eye Accidents Cost
110,000,000
Man-Hours in Lost
Productive Time
Alone*

This form of
**MANPOWER
PIRACY**
you can control
inexpensively!

When eye accidents hit your plant, here's what happens:

- You lose the productive time of the worker and his machine. (One worker and one machine usually — maybe more if they make a critical part.)
- You may face a serious claim — actual cases show awards of four figures in compensation.

In addition, industrial eye accidents cost money in lowered production and more rejects when substitute workers step into the breach—plus the

direct costs of first aid and medical attention.

Protect your manpower and profits by preventing eye injuries. Contact the nearest AO Branch Office and learn how an AO Eye Protection Program can practically eliminate these costs and pay for itself

in less than six months. Or write American Optical Company, 519 Vision Park, Southbridge, Mass., for free booklet "Improved Industrial Vision" which tells how AO's Industrial Vision Program cuts costs, increases production, decreases accidents.

*Estimate. Industrial eye injuries cost over \$5 per employed worker per year — with compensation averaging nearly \$400 per injured man.

American Optical

SAFETY PRODUCTS DIVISION



SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

BUSINESS OUTLOOK

BUSINESS WEEK

SEPT. 5, 1953

A BUSINESS WEEK

SERVICE

Good news this week seemed to be falling on deaf ears.

The Federal Reserve Board, sizing up August industrial production, found it a scant 2% below last March's high. The Census Bureau, looking at jobs, found August setting a new peacetime low for unemployment.

Yet the stock market broke to the lowest level in over a year.

Wall Street is looking beyond today's prosperity. Investors' concern is over business, profits, and dividends a year from now.

That was the story tapped out on the ticker tape as 365 of 1,200 stocks traded on Monday tumbled to new 1953 lows.

What lines of business activity, as mirrored by stock prices, are investors worrying about?

If new lows are any index, heavy industry is a center of concern.

More than 20 makers of machinery, a dozen railway equipment manufacturers, virtually all of the steels, and 20 producers of nonferrous metals and metal products were included in Monday's list of new lows.

Rails and airlines also were targets of the selling, as were the shares of practically everyone selling to the auto industry.

"Smart money" has been fleeing to the so-called defensive stocks.

Electric company shares were conspicuously absent from the list of new lows. So, too, were many merchandisers, cigarette companies, and makers of less-durable types of consumer products.

Nevertheless, a couple of store stocks, a soft drink company, several container makers, some textiles, and three meat packers hit new lows.

Stock market circles apparently aren't putting many chips on the building boom. Shares of at least a dozen companies turning out building materials and supplies found their way into Monday's list of new lows.

You might figure that the boom in oil-well drilling would continue even if activity petered out in other directions.

But Wall Street apparently isn't so sure. At least, the shares of four leading manufacturers of drilling equipment and well supplies were among those appearing in the long list of this year's new lows.

It could be, of course, that oil producers may slow drilling while considering ways of getting new-found petroleum to market.

Inventories loom as the black cloud on the business horizon.

As everyone has said, stocks of raw materials, parts, and finished goods present no problems so long as new orders and shipments hold up.

Yet manufacturers hold inventories valued at more than \$45-billion—up \$3-billion in a year and \$6-billion higher than two years ago.

Virtually all this added stock is held by makers of durable goods.

Manufacturers have been totting up new orders at an average rate of about \$25-billion a month for two and a half years now. That, of course, gives rise to a pretty confident feeling, over-all.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

SEPT. 5, 1953

They have lots of business on their books—enough to keep them busy for nearly three months at the present rate of shipments.

The value of unfilled orders is so high, in fact, that its turn-around has gone almost unnoticed for 10 months.

New orders outran manufacturers' ability to produce for so long that unfilled orders rose from \$25-billion before Korea to nearly \$76-billion last October. Since then, the backlog has dropped \$5-billion.

You might, if you liked, draw a parallel between factories' order backlogs in 1948 and today.

Production was on a plateau then, too. The Federal Reserve Board's index held between 192 and 195 through most of 1948. Yet, during that time (with business seeming hale and hearty), the volume of unfilled orders was being whittled down approximately \$2-billion—or 7%.

This year, the FRB index has hovered around 240. But, in the last 10 months, unfilled orders have declined \$5-billion—or 7%.

This year's decline in unfilled orders has one saving grace:

It can't be blamed on manufacturers producing blindly for the warehouse.

Cancellations of government business are at the root of it.

Yet it must be remembered that inventories haven't been pared in line with cancellations. Thus declining backlogs can't just be laughed off.

Just disregard the Federal Reserve Board's production index of 233 for July. This drop from 240 in June was quite predictable; we pointed out (BW—Jul.4'53,p17) that "the index will dive toward 230."

It's a matter of the weighting, designed to smooth out the seasonal wiggles. The "correction" hasn't kept up with the spread of plantwide vacations; if it had, July would have been about the same as June—and August, at 238, would continue the "plateau."

You can see from employment that nothing much has gone wrong with the economy. Jobs set a new high in June at 63,172,000; July registered 63,120,000, while 63,408,000 for August set another top.

Nonfarm employment this year is three-quarters of a million higher than in 1953. The August total of 56.1-million is up about 900,000 from June; that's in line with the gains for the last two summers.

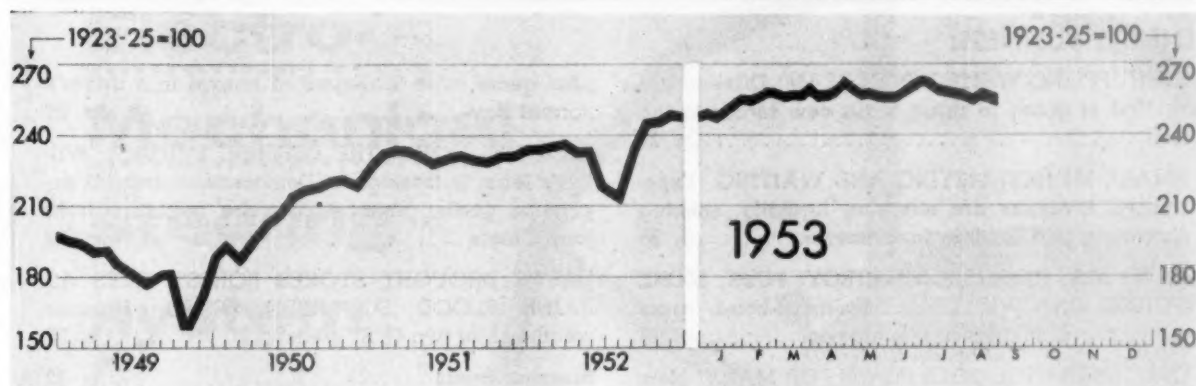
If you sell merchandise on the installment plan, you are bound to run into increasing competition for the consumer's borrowed dollar.

Installment debt went up another \$365-million in July to approach the \$21-billion mark (up \$6-billion in 15 months).

The simple fact is that the consumer has borrowed so much now that he has limited his ability to go further into debt. A new car or a refrigerator now, in many cases, means going without something else.

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FIGURES OF THE WEEK



Business Week Index (above)

\$ Latest Week	Preceding Week	Month Ago	Year Ago	1946 Average
*256.6	†258.6	258.3	241.0	173.1

PRODUCTION

Steel ingot production (thousands of tons).....	2,150	†2,106	2,119	2,055	1,281
Production of automobiles and trucks.....	155,362	†163,635	168,267	122,659	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands).....	\$44,093	\$46,301	\$47,570	\$93,974	\$17,083
Electric power output (millions of kilowatt-hours).....	8,540	8,432	8,512	7,646	4,238
Crude oil and condensate production (daily av., thousands of bbls.).....	6,621	6,619	6,557	6,284	4,751
Bituminous coal production (daily average, thousands of tons).....	1,595	†1,589	1,527	1,848	1,745

TRADE

Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars).....	77	77	72	76	82
Carloadings: all other (daily av., thousands of cars).....	59	58	58	63	53
Department store sales (change from same week of preceding year).....	None	None	+5%	+3%	+30%
Business failures (Dun and Bradstreet, number).....	182	122	182	132	22

PRICES

Spot commodities, daily index (Moody's Dec. 31, 1931 = 100).....	415.6	421.8	420.2	430.7	311.9
Industrial raw materials, daily index (U. S. BLS, 1947-49 = 100).....	86.3	85.9	85.7	97.2	††73.2
Foodstuffs, daily index (U. S. BLS, 1947-49 = 100).....	95.2	95.0	91.5	94.2	††75.4
Finished steel, index (U. S. BLS, 1947-49 = 100).....	141.7	141.7	141.7	130.8	††76.4
Scrap steel composite (Iron Age, ton).....	\$40.00	\$41.67	\$44.58	**\$42.00	\$20.27
Copper (electrolytic, Connecticut Valley, E&MJ, lb.).....	29,970¢	29,915¢	30,000¢	24,500¢	14,045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$2.21	\$2.17	\$2.20	\$2.34	\$1.97
Cotton, daily price (middling, ten designated markets, lb.).....	32.91¢	32.93¢	33.23¢	39.10¢	30.56¢
Wool tops (Boston, lb.).....	\$2.12	\$2.12	\$2.12	\$2.05	\$1.51

FINANCE

90 stocks, price index (Standard & Poor's).....	187.2	191.4	196.2	199.3	135.7
Medium grade corporate bond yield (Baa issues, Moody's).....	3.86%	3.86%	3.84%	3.51%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate).....	23%	23%	23%	24-24%	4-1%

BANKING (Millions of dollars)

Demand deposits adjusted, reporting member banks.....	53,330	52,671	53,395	53,116	††45,820
Total loans and investments, reporting member banks.....	79,301	79,349	79,606	76,440	††72,036
Commercial and agricultural loans, reporting member banks.....	22,891	22,940	22,643	21,108	††9,299
U. S. gov't guaranteed obligations held, reporting member banks.....	32,005	32,098	32,705	32,683	††49,879
Total federal reserve credit outstanding.....	26,131	†26,575	26,301	24,603	23,883

MONTHLY FIGURES OF THE WEEK

	Latest Month	Preceding Month	Year Ago	1946 Average
Employment (in millions)..... August.....	63.4	63.1	62.4	55.2
Unemployment (in millions)..... August.....	1.2	1.5	1.6	2.3
Private expenditures for new construction (in millions)..... August.....	\$1,137	\$1,110	\$1,088	\$803
Public expenditures for new construction (in millions)..... August.....	\$2,184	\$2,176	\$2,030	\$197
Installment credit outstanding (in millions)..... July.....	\$20,854	\$20,489	\$16,465	\$3,174
Consumer credit outstanding (in millions)..... July.....	\$27,217	\$27,051	\$22,751	\$6,704
Manufacturers' inventories (seasonally adjusted, in billions)..... July.....	\$45.7	\$45.5	\$42.7	\$21.3

* Preliminary, week ended August 29, 1953.

† Revised.

‡ Date for "Latest Week" on each series on request.

** Basing pt., less broker's fee.

†† Estimate.

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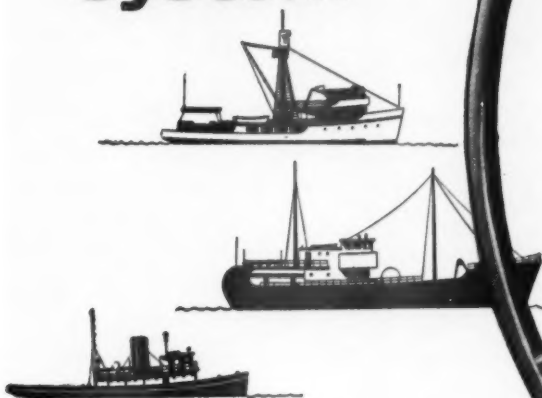
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New Electro- Mechanical steering system



**...ASSURES EFFORTLESS
POWER STEERING FOR
SMALL AND INTERMEDIATE-
SIZED CRAFT**

The new Sperry Electro-Mechanical Steering System assures operators of small and intermediate-sized craft more sensitive and dependable steering with a minimum of maintenance.

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The new system incorporates these advantages—

- 1** *Sensitivity of steering is completely electrical and independent of wear and tear on mechanical shafting.*
- 2** *No electrical contacts in stand that require cleaning. Lubrication reduced to a minimum—and all through external fittings.*
- 3** *Illuminated rudder angle indicator dial in the stand.*
- 4** *Stand operated on either AC or DC.*

All Sperry equipment is backed by our dependable and extensive service. Our nearest district office will be happy to supply additional information.



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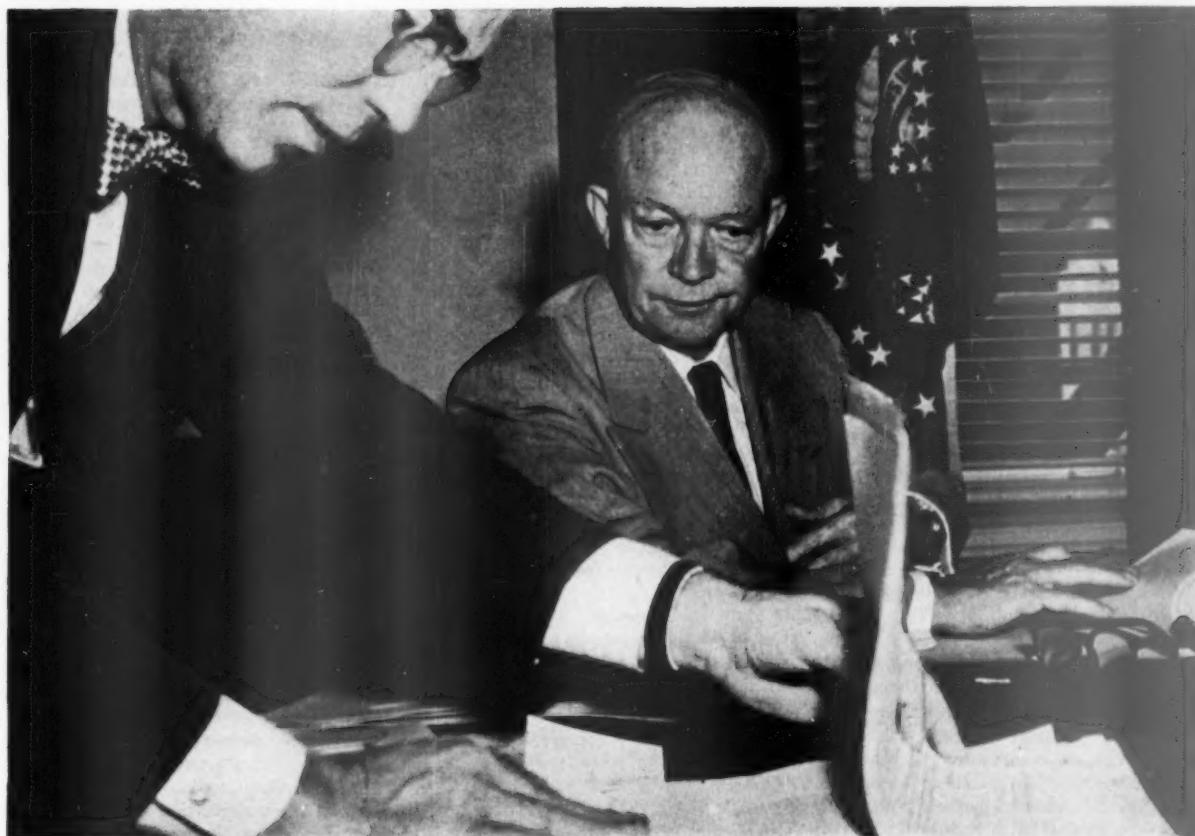
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TEXACO

INDUSTRIAL LUBRICANTS





TO "WIN IN '54" EISENHOWER PLANS . . .

Reshuffling White House Team

When President Eisenhower's administrators come back from vacation this month, they'll sniff something new in the air.

The take-over from the Democrats—with its emphasis on budget-cutting and hiring new policy makers—is over now.

A "Win in '54" phase has taken its place—and that's something new to most of Eisenhower's political neophytes.

That means a realignment of the people around Eisenhower. It doesn't mean that as individuals they are rising or falling in his esteem. It does mean that the drive to win the Congressional elections next year brings a new package of problems to the top.

• **No Fireworks**—The coming change

won't feature the kind of fireworks that lit up the terms of Presidents Roosevelt and Truman. In those days any shifts in emphasis—let alone sharp turn-arounds in top policy—brought on "family squabbles" in which Cabinet officers and others warred on one another publicly.

Both Roosevelt and Truman, as graduate politicians, relied heavily on "old friends" whose personal loyalty to the boss was their main qualification.

As things stand now, no mighty heads are on the chopping block as the Eisenhower Administration makes its first major change. One big reason: Eisenhower has made his staff concept of the Presidency stick much better and far longer than anyone figured. Hence, the new names and faces in the

foreground won't mean that the headlines of the past seven months are suddenly out in the political cold.

I. The Cabinet

The new strategy means a relative eclipse for Joseph M. Dodge, Director of the Bureau of the Budget, who has Cabinet status under Eisenhower.

Dodge will come up with another spending slash for Eisenhower's budget message next January. Another reduction is good politics. But there will be a difference this time in the items picked for cutting.

For example, Interior Secretary Douglas McKay will argue for at least a token public power project—to convince the western voters that the

Administration's policy of increased local responsibility does not mean a complete federal withdrawal from power development. So far, McKay hasn't got far with that argument. But this time he may win his point.

• **Cost of Money**—Treasury Secretary George M. Humphrey and his aides—who said when they took office that higher interest rates would help halt inflation—will soft pedal that line.

Some of Eisenhower's closest political advisers are already telling reporters—and the public—that rising interest rates should be blamed on the Federal Reserve Board—not on the Administration. That's because White House mail is still full of complaints about interest costs from small businessmen and farmers.

• **Williams' Rise**—The earliest indicator of the new political sensitivity is the rise of W. Walter Williams. He is still listed as Under-Secretary of Commerce, but has moved into the White House almost full-time, and he's slated for a bigger role as election day nears.

One of Williams' jobs is to revive the Citizens for Eisenhower movement, to help Republicans running for Congress in 1954. He wants to set up a political and economic reporting service (BW—Aug. 29 '53, p. 32), so the White House can tell which economic policies of the Administration are popular. This means Williams will have a voice in fields where experts like W. Randolph Burgess, in charge of debt management and monetary policies in the Treasury, have had the final say.

This kind of crisscrossing of responsibility hasn't been a problem so far. It may cause headaches as the politicians begin to overrule the technical experts.

Agriculture Secretary Ezra T. Benson will slip—partly because of the coming elections, and partly because wheat farmers showed an overwhelming desire for rigid controls and high support prices in their vote last month. Benson is opposed to both policies, and said so when he took office last January.

Economic and political advisers close to Eisenhower took the wheat election at face value—as a sign that farmers don't want the New Deal laws upset, at least until something to take their place is clearly in sight.

• **Social Welfare**—Mrs. Oveta Culp Hobby, Secretary of the new Dept. of Health, Education, and Welfare has a chance to play a bigger role. A commission will report on plans to widen the social security system, with emphasis on some sort of health plan that Eisenhower hopes will make a hit with Congress and with voters. That topped Mrs. Hobby's list of assignments when she took office, but so far she hasn't done much except approve budget cuts. Now she can launch the Administration in the role of social welfare pioneer.

Labor Secretary Martin P. Durkin is in the center of efforts to rewrite the Taft-Hartley law, and he may come out with increased prestige. If he does, it will be a blow to Commerce Secretary Sinclair Weeks, who has been speaking up for a tough stand against Taft-Hartley changes. Weeks may find that he must join Humphrey and Benson in lesser roles as election day nears.

II. The White House

In all these shifts you see how Eisenhower looks on the Presidency after seven months in office.

He hasn't changed his original idea, that teamwork is the answer. His relations with Cabinet members are warm and friendly. If Humphrey plays a lesser role in an election year, it won't mean his bridge-playing visits to the White House will end.

Eisenhower would never agree to a Washington proverb—that the natural enemies of any President are his Cabinet officers. Coined by Vice-President Charles G. Dawes back in the 1920s, that adage is true only when Cabinet officers use their special knowledge to block the President's wishes. There's no sign of this so far in the new Administration.

• **Staff Liaison**—One reason is strong staff work. Eisenhower uses the White House staff to bridge the gap between Presidency and Cabinet. Some staff members attend Cabinet meetings on a regular basis—for example, Gabriel S. Hauge, Eisenhower's administrative assistant for economic affairs; Robert Cutler, in charge of national security

affairs; and Bernard Shanley, White House counsel.

Taft-Hartley maneuvering shows how this works. At the Cabinet level, Weeks and Durkin are at two extremes. But Shanley is the key staff man, charged with working out Taft-Hartley changes. He deals with both Cabinet officers, seeking a policy that will keep the team intact.

Hauge serves this function in the economic field. He worked out the policy that led to extension of the excess-profits tax over the original opposition of some Cabinet members. He has also been active in selecting personnel for the long list of commissions that Eisenhower has appointed to study problems ranging from international trade to sale of the synthetic rubber plants.

Shanley, Hauge, Cutler, and C. D. Jackson—Eisenhower's psychological warfare expert—have come through the shakedown period with somewhat expanded roles. Because their work has important political implications, Shanley and Hauge will be busier than ever.

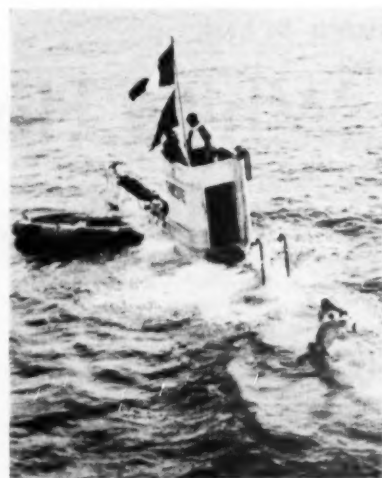
III. The Congress

The Administration fumbled its relations with Congress during the first seven months, and there is no sign that it has learned its lesson. There is still a tendency to plan things from the executive end without bringing in key congressmen. A case in point is the tax study being made in the Treasury.

There's close staff liaison between Treasury and the Joint Committee on Internal Revenue in Congress. But there's every indication that Humphrey and Rep. Dan Reed—chairman of the tax writing Ways and Means Committee—haven't got together. Humphrey has begun to talk about raising additional tax revenue—and Reed is as strong as ever for cutting it. Any suggestion by Humphrey that a sales tax is needed is particularly likely to raise a storm among the lawmakers.

Eisenhower's regular Congressional liaison staff—headed by Gen. Wilton B. Persons, backed up by Gerald D. Morgan and Bryce N. Harlow—will have one advantage it lacked this year. Every Republican member of the House and the Republican senators seeking reelection will be looking for votes. It won't help any of them to become known as anti-Eisenhower, so long as Eisenhower's personal popularity remains where it is.

This means Eisenhower will be able to put real pressure on Congress for the things he wants in 1954. And the chances are that he will have to take advantage of this personal strength. He won't have the late Sen. Robert A. Taft to keep the right wing of the Republican party in line for him.



Going Down?

Prof. Auguste Piccard's steel bathysphere takes off for last week's dive off Capri (passengers took to the rubber raft). He went down 3,500 ft., will try for 9,800 ft.

Smart Money: Sitting and Waiting

● Experienced investors feel the future is too uncertain for long-range bets. Until the doubt passes, they're keeping their money liquid.

● This means they're putting less into stocks and real estate, more into short-term maturities and cash savings.

● They're also getting more and more interested in tax-free securities such as municipal bonds.

Investors, said a Memphis banker this week, "are standing by. They're trimming down. They want to see which way the cow will jump."

He was talking only of men he knew, in and around his own town—men whom he considered smart about money. But what he said holds good all over the country, for men with a greater or less amount of capital to invest. Smart money men everywhere, a BUSINESS WEEK survey found this week, are watching the same cow.

The average businessman—and with him, the average investor—expects a recession some time next year (BW—Aug. 15 '53, p. 29). But he isn't sure enough of his reasoning to make any big bets on it. He doesn't know how deep the recession will be, how long it will last, what its effects will be on his particular sphere of operations. To add to his confusion, he occasionally hears voices scoffing at the whole idea of a recession. There won't be one at all, he's told. This is a permanent boom.

Add to that the basic uncertainty of the times—the tense international situation—and you can see why even the cleverest investor is unsure of himself. He's cautious about moving into new ventures, a little nervous over his present ones. His goal right now is to keep his money tied as loosely as possible, so that he can move it where he wants to on short notice. In financial terms, the word is liquidity.

● **Quick Change**—This is a far cry from the thinking of smart money back in 1951, an even further cry from the thinking in 1950. Three years ago (BW—Oct. 7 '50, p. 24), most investors foresaw a steady, long-drawn-out inflation. The best way of protecting money seemed to be buying farm land, which increases in dollar value almost automatically as prices increase. There was a terrific rush on land that year.

In 1951 (BW—Oct. 6 '51, p. 24), the big concern in money circles was depression. Investors saw it coming in 1953 or 1954. They hedged against it by buying into growth industries—chemicals, electronics. The rush on farm land slowed down to a walk.

Now, the passion is for liquidity. Before the average investor puts his money into anything today, he's likely to ask this question before he does anything else: "Will I be able to get my money out fast if something unexpected comes up?" The flow of money into real estate and into the stock market is slowing down. An increasing amount is going into municipal and government bonds—particularly those of short maturity—and into savings banks.

● **Portable Cash**—This taste for liquidity has come upon investors both big and small. One Detroit businessman in his early fifties, estimated to be a near-millionaire, is known to be fond of venture capital operations. In the past, his money has always been active. Now, however, he's just sitting tight. He's waiting from month to month until he's sure what's going to happen.

Another investor with holdings in the hundreds of thousands of dollars is selling off his big real estate properties. He's putting his money into the bank, and into government bonds of a series that can be cashed quickly. His motive in buying the bonds is not particularly that he likes bonds. He merely wants some way of occupying his money until he can figure out what else to do with it.

You hear stories like this all over the country. And banks will back the stories up. A bank in the South reports, for instance, that its savings accounts have increased by more than \$1-million in the past year.

● **Tax Consideration**—Probably second in importance to liquidity right now, in the minds of investors, is the consideration of taxes. There's a growing feeling that tax-exempt municipal and turnpike bonds—though they yield less income than many other kinds of investment—are, after all, the best bet.

This thinking hits a soft spot particularly with investors in the upper tax brackets. As a Portland (Ore.) brokerage firm points out: "The 3% interest paid by a municipal bond is equal to 10% or more from taxable securities for men in the \$40,000 tax bracket." A San Francisco broker is

even more enthusiastic over the idea than that. Says he: "Anybody with an income of \$100,000 a year has almost got to buy municipals."

And investors are doing just that. Look at the case of this Cleveland executive, for instance. He's board chairman and president of a multimillion-dollar corporation, and has been putting as much as 75% of his investment money into his own company's stocks. He thinks now, though, that he'll put only 10% into the company from now on. He'll probably put most of the balance in municipal and government bonds. In making this switch, he says, his motive is to defend himself against taxes.

He's by no means an isolated case. "People who have never bought tax-free stuff before are buying it now," says a Columbus (Ohio) broker. "I was talking to a wealthy man on the phone the other day. He has been almost fully invested in stocks. I didn't try to sell him anything, but before we got through talking he'd bought \$75,000 worth of tax-free bonds."

● **Stock Choice**—Does this mean that industrial stocks will gradually fall into disrepute? If the men who are generally rated as smart investors are beginning to shy away from stocks, sooner or later, other, less experienced investors may do the same. New stock offerings might find the going rough.

It's not so drastic as it sounds. Smart money will always buy stocks, no matter what their tax drawbacks. Whenever the present uncertainty clears up to the satisfaction of experienced money men, you'll see them move much of their capital from its liquid position back into equities.

Even now, not all investors agree that it's wise to cut back on stock holdings. Some are merely shifting their money from speculative stocks to the more dependable blue chip equities. A Los Angeles utility president, now retired, explains his formula like this: "Proven companies, exclusively. Companies that have been around for years and have withstood competition and all kinds of market conditions."

This is merely a toned-down version of the thinking behind liquidity. The idea is essentially the same: to get some measure of stability in a wobbly period—to be prepared for whatever might happen in the future.

● **Stable Stocks**—Many investors, thinking in terms of long-range stability, have specific preferences among industrial stocks. A California businessman, for instance, is partial to oil. His explanation:

"Like lots of others, I took a beating

in the 1929 stock market crash. It didn't wipe me out, though. One day I looked out the window at the automobile traffic, and decided that no matter how hard times might become, people couldn't do without autos, trucks, and buses. I've played hard on oil stocks ever since."

A midwestern executive has a different idea. To him, gaining stability is a simple matter of betting on the continued growth of U.S. population. He buys stocks that have a good chance of increasing in value as the population increases. This means largely food stocks.

In Texas, you'll find the big money betting on natural gas, on cattle ("people will always love beefsteak"), and on real estate—which is much less popular in most other parts of the U.S.

"I can't see how you can beat natural gas over the long pull," says one Texan. "If I had lots of money, I'd put it in gas drilling. If I were of modest means, I'd buy equities in gas companies." Both supply reserves and the potential market, Texans feel, are huge.

• **Dissenters**—A few investors refuse to follow the cautious footsteps of their fellows. Some say merely that they are fond of putting money into speculative ventures. Others reason that the present feeling of uncertainty has no basis in fact.

A wealthy businessman in Cleveland explains himself like this: "I don't look on our present status as one of inflation. I believe we are on a new and higher plateau. I'm continuing my investments in industrials."

Other money men concede that the U.S. economy may be artificially inflated, that it will probably drop back to normal next year. But they see no need to get nervous. They count on the impending death of the excess-profits tax to counteract the effects of a slump.

One investor, backing up his optimism, points to the case of a big company in Cincinnati. Last year, he says, it earned \$11 per share of stock, paid out \$7.30 per share in excess-profits taxes. If EPT is killed next year, the company—armed with its new tax status—could walk through even a deep recession without stumbling.

• **Deciding Factors**—Some investors are so sure of this reasoning that, before they put any money into a company, they look at its excess-profits status. If the company is paying a high excess-profits tax, that factor weighs heavily in their decision to invest.

Others look first at the company's management. At least one old-time investor, in San Francisco, counts this as the most important single factor in a company's makeup.



WARNING flashed by radar outpost was ever the main hope of defense planners.

New Air Defense Strategy

Announcement of the Russian H-bomb explosion gave continental defense plans of the U.S. a much-needed jolt. And, if that wasn't enough, this week's disclosure that the Reds have a whole family of nuclear weapons repeated the lesson. As a result, Washington is facing up to widespread revisions in its basic thinking as well as in its specific plans for defense from air attack.

For one thing, the old idea of basement atomic shelters and of keeping civilians off the streets and highways in case of attack may eventually be shelved. Military countermeasures will get a heavy going-over. Already the new Joint Chiefs of Staff no longer rely on a radar Maginot Line and U.S. retaliatory power as sole deterrents to a Russian attack.

• **Twofold Task**—What the new thinking calls for is a more balanced pro-

gram, breaking continental defense down into two main areas:

• The problem of the military is to keep the enemy from getting over a target, or to shoot him down before he delivers the bomb on target. This takes in the much tougher job of knocking down guided missiles launched from offshore.

• The job for the civil defense agencies is to provide the maximum amount of protection for the public and to get things back in operation as quickly as possible after an attack.

Up to now, emphasis has been largely on the side of the military. The basic thinking was that preventing the planes and missiles from reaching the target was the most important. If you could do that, the civil defense problem would take care of itself.

Now, the civilian side is coming into its own. The top Washington brass



RETALIATION and interruption count heavily in U. S. strategy. B-36 that mothers atom-bomb carrying fighter is latest U. S. weapon.



CIVIL DEFENSE now gets equal emphasis. After alert, all radio will use prearranged bands (left). Roads will be shut.

Puts More Stress on Civil Side

now figures that the civil defense program should rank at least as high as the military. The question is, how to do it? Every single research study had come up with defense programs that would cost a minimum of \$20-billion a year over and above the \$150-billion already spent for U. S. rearmament. Even that would be just a first step and would not insure complete protection.

Administration leaders hesitate to propose a multibillion-dollar continental defense program that would knock all budget balancing attempts out the window. They're not sure Congress would buy it, nor are they sure that it would be worth the tremendous outlay of cash.

And so the new thinking on continental defense probably won't produce any immediate step-up in civilian defense appropriations. That will come only if and when a new war threat

blazes up. Meanwhile, the main effect will be a switch in the plans that Washington has more or less ready to put into effect if war breaks suddenly.

I. The Military Problem

Military men figure that Russian planes would attack from known bases in Siberia or Europe. This means that the regions most likely to be attacked are:

- The West Coast areas from Seattle on south.
- The East Coast from Maine to the Carolinas, inland as far as Ohio.

About the best the military men can guarantee right now in the way of advance warning of air attack is around 15 minutes. That's because of inability to predict which targets will be hit, even after the planes are spotted. Civilian defense officials want that time

extended to three hours. They say that's what's needed to prepare a city for atomic attack.

• **They Are Slow Now**—The military point out that under present conditions they might be able to extend the advance warning time. Right now, the major part of the Russian bombing force consists of World War II types comparable to our B-29s. These are slow types that would be sitting ducks for jet interceptors like the F-86D and the F-94. Chances are better than good that they would be destroyed before reaching the U. S. proper.

But the advent of newer and faster planes will make spotting, interception, and destruction increasingly difficult. Take the B-47-type bomber for example. A two-hour advance warning for a fleet of bombers of this type would require that they be sighted over 1,000 mi. from target. If such a force

were attacking the East Coast, it would have to be picked up over Newfoundland, where it still had the choice of hitting most of the major industrial and population centers scattered over the Northeast.

• **More Guns**—This is where the anti-aircraft missiles and AA battalions would fit in. Also, it's why a lot of U. S. citizens, on Sunday afternoon drives, particularly in the Northeast, are spotting new gun emplacements around their cities. More than 110 anti-aircraft battalions equipped with skysweeper radar and very accurate guns are now protecting vital industrial targets. In addition, the Army is quietly adding whole groups of guided-missile battalions that can launch the super-sonic Nike, which is effective up to 10 mi. from the target.

To provide early warning, the Army and Air Force have been working on a North American radar fence—along with the Canadians—for nearly five years. It stretches from the tip of the Aleutian Islands across North America and extends out over the Atlantic Ocean aboard patrol ships. Also, the Navy and the Air Force are now buying fleets of Lockheed Superconstellations that will be flying radar platforms.

• **Submarines**—These coastal areas also are vulnerable to submarine attack. Long-range Russian submarines, now under construction, have the ability to lie off U. S. coastal areas and launch missiles under the cover of darkness.

If the Russians have anything similar to the Navy's Regulus, they can fire from as far out as 300 mi. or more. Military men feel that the Russians will have reasonably accurate long-range missiles capable of sustained flights up to 600 miles in the near future.

Military men know that they can't hope to provide absolute protection with electronic and mechanical devices alone. For one thing, despite the billions that are poured into a radar fence, there are bound to be gaps, and mechanical failures.

II. The Civil Defense Problem

Civil defense used to be concerned mainly with the guy on the block who acted as air raid warden and told you when to put out your lights, or with the schoolteacher who doubled as an aircraft spotter during off hours. These people are still the backbone of the system. But the new civil defense setup that Washington is figuring on goes far deeper than just part-time or accidental participation.

The civil defense program breaks up two ways: First, there is the military assistance phase; and, then there's the strictly civil activities that embrace fire, police, rescue squads, and other typically civilian activities.

• **Huge Corps**—The Pentagon is looking for a ground corps to back the radar screen—some half-million civilians who will man some 20,000 air observation posts. The ideal would be to have these civilians maintain a 24-hour watch over some 36 states, thus providing a post every eight miles in the thickly settled areas. Right now we are a long way from this. When everybody is counted—including the curious and occasional workers—the Air Force and the Civil Defense Corps can come up with about 320,000 civilian observers, who hold down about 12,000 ground observation stations.

• **Home Guard**—The immediate goal is to fill in the gaps. A longer-range program is the development of sort of "home guard" units such as existed in Britain. These would be quasi-military organizations made up of civilians by day who could take over anti-aircraft emplacements, filter centers, communications headquarters, and other activities by night or on call. They would be trained and commanded by regular military or retired military officers and noncoms.

Top military brass like retired Gen. Omar Bradley favor this proposal. They

think it would be the most economical type of civilian participation in a long defense period. And it would condition the general public to obeying orders and remaining in a defense frame of mind so that panic would be averted in case of actual attack.

• **Evacuation**—Planning is now going ahead on the strictly civilian side of the civil defense program. The main change is from the shelter concept to one of evacuation. Civil defense officials figure that for one thing, air raid shelters provide small protection in an atomic attack and furthermore, a bombed-out area would be largely uninhabitable after the raid. The idea now is to evacuate prior to the attack.

There is one hitch to this. Any evacuation of civilians will have to wait until more advance warning of impending raids can be given. That's likely to be some time yet.

Right now, the Federal Civil Defense Administration estimates that a total of about 17-million volunteers will be needed for the emergency activities in case of war. The most they can count on currently—including all the municipal and state services—is a little over 4-million.

Car Insurance Goes Down for Many

The nation's insurance companies this week came up with a plan for the first major postwar cut in auto liability rates. The cut will be made possible by gearing rates to the degree of hazard involved in each driver's normal range of operation.

The result will be a reduction in liability insurance costs for perhaps 50% of all insured private passenger cars. For privately owned pleasure cars driven by adults in many states the cut may be as much as 15%.

But for some drivers the new rates will work in the opposite direction. There will be a boost, for example, for unmarried car owners under 25 years of age—a group considered one of the poorest risks. And, at least in some cases, drivers who commute by car to jobs more than 10 road miles away will have a higher rate than at present.

• **Schedules**—The new rates will be set up through new classification schedules being placed in effect by 213 stock and mutual insurance companies throughout the country. The National Bureau of Casualty Underwriters (representing stock companies) and the Mutual Insurance Rating Bureau (for the mutuals) say the new schedules will be put into effect as fast as they can be prepared and filed with state regulatory bodies.

The detailed schedules are still being worked out. But in New York, for example, it is expected they will be

filed in time to become effective within 30 days.

For parts of New York City (Manhattan, Bronx, Brooklyn), where rates are the highest in the nation, savings may be considerable. The new rate for cars used only for pleasure and with no drivers under 25 may be around \$123 a year for \$10,000-\$20,000 bodily injury and \$5,000 property damage coverage. That compares with \$144.40 now.

• **Intricate**—The schedules are complicated and you may have to consult your insurance agent to determine how you come out. But briefly, the rate changes put private cars into seven groups instead of the present three, thus permitting greater variation in rates according to the risk in each type of operation.

Rates on cars used for business purposes remain as at present—but private passenger cars owned by clergymen and farmers will not be considered as used for business purposes.

In pleasure cars, it's not certain there will be lower costs in all states, because a higher incident of accidents in some states may result in increased base rates that cancel out prospective savings. Massachusetts companies, for instance, are demanding a 20% boost in rates. In the Bay State any hike would be universally felt because of compulsory insurance.

Slowing Down the Defense Buildup

● Secretary of Defense Wilson and his team are tossing out the Democrats' long-range mobilization plans.

● Projects that don't show "an immediate and direct national defense use" are being scrapped.

● Defense officials say that any more long-range planning must wait for some general guidance by the Joint Chiefs of Staff.

The government's drive to build up industrial capacity for future emergencies is just about dead.

Neither Defense Mobilizer Arthur S. Flemming nor other defense officials will put it quite that bluntly. But the evidence is piling up fast:

- In a press conference this week, Flemming announced that he "expects to call an end soon to a rather large part" of the government's accelerated tax amortization program. This does not mean canceling construction already authorized.

The Office of Defense Mobilization is shelving its uncompleted report on present U. S. production potential. The report was to spotlight "gaps" in our industrial capacity.

- The agency is wiping out most of the "expansion goals" that were the basis for the whole tax amortization program. Many of these goals haven't yet been met.

- All up and down the line, ODM officials are getting less generous with new certificates of necessity—even in industries where additional capacity is still needed.

- **Informal, but Real**—Actually, the government's push to expand industrial capacity has been slowing down for some time. The trend has been fairly obvious. The only question has been whether the new Administration would formally scrap the Democrats' expansion ideas, or merely let them fade away.

Since Secretary of Defense Charles E. Wilson and his team took over the Pentagon, they've been by far the strongest voice in mobilization—and their actions have favored immediate, rather than future, results. For instance:

- They did a turn-around on the broad base concept—the idea of encouraging multiple supply sources for future full mobilization. They are narrowing down the mobilization base, with fewer contractors. This means getting manufacturers back into their own field of business—eliminating auto makers from aircraft production, for example.

- They have virtually scrapped the

Vance plan for preventing another "machine tool bottleneck." The plan—drawn up by a group of production experts headed by Studebaker Corp.'s president, Harold S. Vance—called for military spending of about \$500-million annually to buy and maintain a minimum stock of machine tools. It was designed also to put a floor under the machine tool makers' operations.

- **Savings**—Wilson and Deputy Secretary Roger M. Kyes say that in so doing, they're straightening out a mess, trimming billions of dollars of unnecessary spending. They think the previous administration went too far in spreading out defense contracts, used the arms production program as an economic crutch, and played politics with military procurement in general.

They've been saying that long-range mobilization planning must wait until the newly designated Joint Chiefs of Staff come up with a new assessment of strategic war planning.

- **Decline of ODM**—With the takeover of the new team in the Pentagon, the new and supposedly all-powerful Office of Defense Mobilization started a rapid decline. Previously, a reorganization plan had given it all the planning functions of the old National Security Resources Board—plus much of the say in current military-civilian mobilization matters that the first mobilizer, General Electric Co.'s Charles E. Wilson, originally got in an executive order from then-President Truman. Now, the new policies are knocking ODM's props out from under it.

ODM's decline, and the Wilson-Kyes cutting of any projects that don't show "an immediate and direct national defense use," have added up to a complete halt on a wide variety of mobilization programs and projects begun by the Democrats after Korea.

- **Amortization**—Biggest incentive for private expansion of defense facilities has been the fast tax amortization program. To date, the government has issued amortization certificates for almost 18,000 new or expanded facilities worth over \$27.6-billion. About 61% of the valuation has been eligible for

rapid depreciation. This has covered everything from steel, machine tools, and petroleum refining to electric power and cotton gins.

Goals were set up for 233 different products or industries. But so far, only about 75 of the goals have been achieved—on paper anyway. At least 40 are less than 75% under way. Now ODM plans to kill at least 150 goals, many of which will be in the incomplete category. For example: freight cars, ore carriers, ocean tankers, and some chemicals. This means an end to tax amortization for companies considering expansion of capacity in these industries.

Review of remaining goals may yield additional cuts. These are other capacity goals far from completion: chemical manufacturing machinery, pressed gas cylinders, small gas pipelines, diesel locomotives, mining machinery, plastics, presses and forging equipment, distribution transformers, hydraulic and steam turbines. Fast amortization certificates are proving to be inadequate incentives for the kind of private expansion the government seeks. But it's unlikely that more attractive incentives will be set up.

- **Tightening Up**—Flemming says ODM is dropping amortization aids only to those industries where capacity goals have been met, or "expansion in those industries is now adequate."

ODM is also tightening up on renewals of amortization certificates. Construction on certified projects is supposed to begin in six months. ODM has been renewing most of the unused certificates. Under the new policy, however, the agency will renew very few.

As things are running now, ODM is still receiving an average of 55 new tax amortization applications weekly and is certifying 68 weekly. The peaks: 823 applications weekly (during March, 1951), and 296 certifications weekly (during June, 1952). Treasury Secretary George M. Humphrey frowns on the current rate of certificates, and is one of the officials responsible for the tighter rules.

- **Study**—Key to the future mobilization program was to be ODM's ambitious production potential study. Its objective: to match up projected production and construction levels for various military, defense-supporting, and civilian programs with existing raw material, fabricating, and assembly-plant facilities. This would show up specific deficiencies—or "gaps"—in U. S. capacity to meet future emergency needs.

But within the past month, work on the study has been practically halted. The deadline has long since passed, but

the study is only about half finished. Further progress isn't expected in the near future.

The various civilian claimant agencies have submitted their estimated full mobilization requirements to ODM, and the capacity study has been "done in general terms." But that's about all.

FPC Lets Natural Gas Company Ship to Canada

Tennessee Gas Transmission Co. is the hands-down winner in the two-year-old controversy over New England natural gas.

The Federal Power Commission last week came through with an order permitting Tennessee to export gas to Canada—thus meeting the pipeline's terms for settling the dispute that snarled gas deliveries to half the New England market last year and threatened to do the same again.

The export permit was the major concession Tennessee demanded in exchange for withdrawing opposition to an earlier FPC decision certifying half the New England market to Algonquin Gas Transmission Co.

• **New Customers**—Under the settlement that was made final last week by FPC:

- Tennessee will continue to serve about half the New England market, add several large customers on its lines in the Tennessee-Kentucky area, and export an estimated 115-million cu. ft. per day to Canada.

- Algonquin will now complete the final links in its line to serve the remaining half of the New England market.

- FPC gets out from under one of the toughest legal snarls in its history of natural gas pipeline regulation.

- **Battle**—Tennessee started the dispute in 1951, when it filed to serve the half of the New England market not covered by its earlier FPC certificate. But FPC ignored the new Tennessee petition, and certified Algonquin.

Tennessee went to court and got the Algonquin certificate set aside, which threw the matter back before FPC. Hearings to decide Algonquin's fate were started again last fall and lasted until June 4.

In July, Tennessee offered to settle if FPC would grant it a permit to export gas to Canada. It was this permit that FPC granted last week. Earlier in the month it had reaffirmed the Algonquin permit and allowed Tennessee to pick up additional customers along its line up from the Southwest.

Under the export permit, Tennessee proposes to increase its system capacity at an estimated cost of nearly \$92-million.



East's Drought Stokes Forest Fires . . .



. . . As Rains Flood Southern Texas

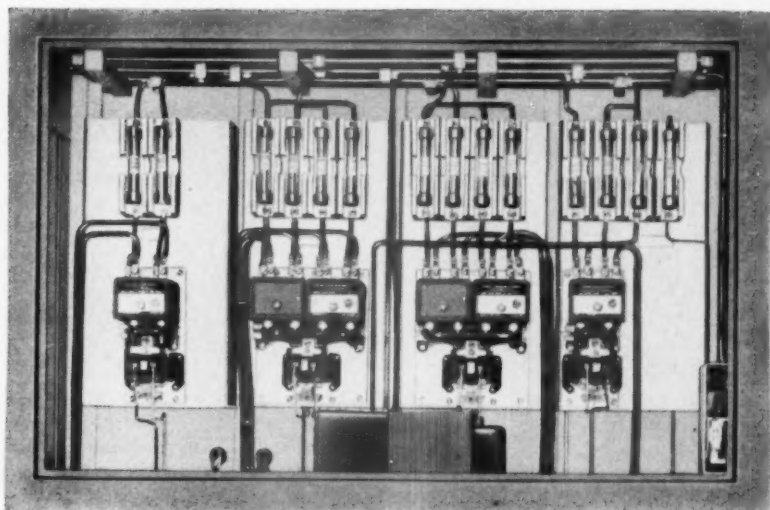
Extremes of weather plagued various portions of the U. S. as the summer sizzled to an end.

In the whole northeastern section of the country, a prolonged heat wave smashed records in the suffering cities. In country areas, drought damaged crops and fruit, while ground and forest fires crackled in widely scattered spots.

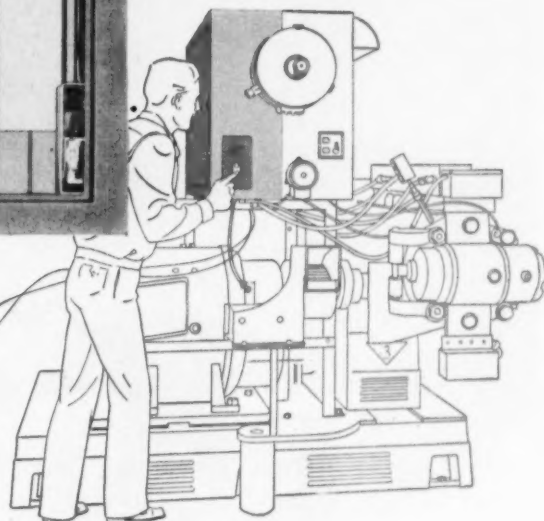
Near Tuxedo Park, N. Y. (above) a ground fire smoked stubbornly, threatening to sweep down on heavily traveled Route 17. Fire fighters also had a

tough time controlling blazes in the forest of Bear Mountain Park, and on the West Point Military Academy land west of Fort Montgomery.

In Texas, the other side of the coin looked just as bad. The forlorn home (below) at Lopeno, in the southern part of the state, was one of the first to be cut off as the Rio Grande flooded after torrential rains. Dwellers along the river, so recently drought-cursed, fled their homes when a cloudburst followed on the heels of 20 inches of rain.



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BUSINESS BRIEFS

The next World's Fair will be held in Houston, Tex., in 1956, if a group of local businessmen have their way. The group has bought a 935-acre site near San Jacinto, hopes to draw \$1-billion and 34-million people in a projected two-year run. Dr. W. W. Kemmerer, former president of the University of Houston (BW-May 2 '53, p30), heads the drive to raise \$500,000 operating capital.

Atomic operations of Union Carbide & Carbon Corp. at Oak Ridge and Paducah, Ky., have been expanded again. The company's contract with AEC, now extended to June 30, 1957, has been amplified to cover responsibility for the gaseous diffusion plants at both installations.

Clouds of smoke issuing from Americans were denser than ever in the year ended June 30. The Commissioner of Internal Revenue says we smoked nearly 20-billion packs of cigarettes and more than 6-billion cigars. That's a cigarette gain of 2.9%, compared with the 3.5% increase in total cigarette production reported by the U.S. Department of Agriculture.

Tax tangles: Kennecott Copper Corp., asked the Utah Supreme Court to settle its \$8-million tax dispute with the state. The row, covering the years 1942 through 1950, involves nearly \$4.9-million the state claims is still due it, and \$3.2-million of what Kennecott calls overpayments already made. ... Falls Township, in Pennsylvania, has carried its fight for more taxes from U.S. Steel's Fairless plant to the Bucks County assessors. Township officials call the Fairless assessment "ridiculously low."

Beverly Hills plush is on the increase, with groundbreaking started for a \$14-million Hilton hotel in the Los Angeles suburb. Plans call for 450 rooms, each with private balcony, in three wings radiating from a central core.

Expansions: New Cleveland plant planned by Ford Motor Co. will add 562,000 sq. ft. to the company's installation there. Scheduled for 1955 completion, the plant will make V-8 engines. ... White Motor Co. plans a new \$2-million plant at Exton, Pa., if it hurdles the last legal blocks to its purchase of Autocar Co. (BW-Jul. 11 '53, p34). New setup would replace the Autocar plant at nearby Ardmore.



Background for a \$20,000-a-year saving

SAVING \$20,000 a year in fueling 1,710 horse-power is something to shout about in anybody's power plant! And that's what they're doing these days at the Ellwood City Forge Company, Ellwood City, Pennsylvania.

It's really a simple story. Back in 1945, Cooper-Bessemer came up with the Gas-Diesel development—diesels that burn mostly gas instead of oil. This not only permitted savings in fuel *cost*, but the new engines offered unmatched efficiencies. They still do! And that goes for virtually *any* kind of power you want to compare.

So, to meet increased power needs, Ellwood City Forge installed a Cooper-Bessemer Gas-Diesel in 1949. It came through with such economy that an older Cooper-Bessemer diesel was then converted to Gas-Diesel operation. And now a third Cooper-Bessemer Gas-Diesel, shown above, has been recently added. All told, these modern Gas-Diesels are saving the company \$20,000 a year in fuel cost alone!

This is one of many Cooper-Bessemer developments that are cutting costs in *all* kinds of heavy duty power service . . . everywhere. So if you have a stake in power, be sure to find out about the new things being done by one of America's *oldest* engine builders. The Cooper-Bessemer Corporation, Mount Vernon, Ohio, and Grove City, Pennsylvania.



New York • Chicago • Washington • San Francisco • Los Angeles •
San Diego • Houston • Dallas • Odessa • Tampa • Groggton •
Seattle • Tulsa • St. Louis • Gloucester • New Orleans • Shreveport
Cooper-Bessemer of Canada, Ltd., Halifax, N. S.

DIESELS • GAS ENGINES • GAS-DIESELS • ENGINE-DRIVEN AND MOTOR-DRIVEN COMPRESSORS • HIGH PRESSURE LIQUID PUMPS

**"THEY
THOUGHT
I COULDN'T
LIVE"**



"Nearly three years ago I slipped off a roof where I was working . . . and landed on a railroad track 110 feet below.

"I was so badly smashed up nobody thought I could reach the hospital alive. Three crushed vertebrae, broken pelvis, both ankles crushed, left leg broken in two places, compound fractures of my jaw and left arm. And damage to my spinal cord which left me paralyzed from the waist down.

"Those doctors did a wonderful job. They saved my life. Later they operated and relieved much of my paralysis.

"Then they moved me to the Liberty Mutual Rehabilitation Center in Boston. Though I was one of the most serious cases they had ever seen, these people knew just what to do. I began with easy exer-

cises. Soon I could use simple tools. Finally I learned to walk all over again.

"Now I need only one cane. I'm a recent graduate of the Joseph Bulova School of Watchmaking. I look forward to earning an independent living as a watchmaker or repairman."



That's the true story of a courageous young man named Paul Orva.

Rehabilitation is just one phase of Liberty Mutual's Humanics Program which brings together all activities for preventing accidents . . . for reducing disability and costs when accidents occur. Other phases are specialized advice in Industrial Engineering, Industrial Preventive Medicine, Hygiene and Claims Medical Service — also aimed at reducing loss, including the cost of Workmen's Compensation Insurance.

To find out how Humanics has reduced accidents, lowered costs and improved production in plants like yours, just call Liberty Mutual. Look in the telephone book for the nearest Liberty Mutual office, or write to 175 Berkeley Street, Boston 17, Massachusetts.

★ Better Compensation Insurance Protection at Lower Cost through HUMANICS ★

WASHINGTON OUTLOOK

WASHINGTON
BUREAU
SEPT. 5, 1953



A behind-the-scenes tussle over labor policy now is in full swing. Businessmen who deal with unions have a big stake in the outcome.

It's a test of Durkin's influence as Eisenhower's Labor Secretary. Durkin is making his first bid to challenge the GOP politicians.

Nub of the issue is Taft-Hartley—how the law is administered, whether it stays as is or is revised to appease union critics and court labor votes in next year's Congressional elections. The situation:

Eisenhower is remaking the NLRB—National Labor Relations Board—which interprets the Taft-Hartley law. The board under the Democrats was packed to favor the unions, as against management (page 146). Two new members of the five-member board have been named by Eisenhower—Farmer (designated chairman), and Rodgers. A third appointment now is coming up, to replace Paul Styles, who resigned this week. This new man will hold the balance of power on the board. Farmer and Rodgers show signs of standing together, voting "impartial" against Murdock and Peterson, the old "pro-union" members of the board. So, the next appointment will tell the story on how the law is read.

The man with the inside track is L. E. Gooding, Labor Board Chairman in Wisconsin. He has the backing of the Wisconsin senators, Chairman Smith of the Senate Labor Committee, and was proposed to President Eisenhower by the GOP National Committee. That's good political "clearance."

But Durkin is making a fight on Gooding, even though his department has nothing to do with the board. Durkin is the ex-head of the AFL Plumbers. And the AFL in Wisconsin is opposed to Gooding—calls him "pro-management," because of decisions he has handed down.

Durkin's opposition is significant. He is backing T-H amendments that can't get through Congress. And from the big union point of view, the next best thing to softening the law is "pro-union" administration of it by NLRB.

Eisenhower is on the spot. If he appoints Gooding, he will go against his top labor official. If he doesn't, then he will be turning down advice from his party's political chiefs, who already are complaining about the lack of patronage. Either way, Taft-Hartley will remain a hot political issue. You will get the union political pitch in the Labor Day speeches of the union leaders. Union influence in Washington is at a 20-year low.

Government workers are in a furor. More and more are losing jobs, here in Washington and in federal offices around the country.

What's happening doesn't encourage government career work. The firings catch lots of Johnny-come-latelys—many of them political appointments. But they also catch thousands of employees who have worked years and years for the government—started as youngsters and after 20 to 25 years have hit the top government brackets, on merit. Economy plays a part. Many jobs simply are being abolished—Congress cut out the money. But many firings are purely political—the new men at the head of a department or agency want their own men here with them.

The Civil Service Commission is stiffening up. It has the final say on what jobs are policy making, and thus political plums. Heretofore, it has

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
SEPT. 5, 1953

been easy when the new officials have requested that this or that job be put in class "C"—now known as "available for cousins." Chairman Young has gone to the White House, and thinks he has an understanding with the President on how far political considerations go.

•
Businessmen are slow to come to Washington, on six-month assignments.

Planning is hampered at ODM—Office of Defense Mobilization, which will run the industrial side of the next crisis, whether police action or war (page 29).

And so is BSA—The Business Services Administration. It's on paper, as successor to NPA, which passed out your allotments in the Korean crisis. As materials have become plentiful, businessmen to plan have become scarce.

Some think business is making a big mistake. The war danger is less acute, now that the Korean shooting has stopped. But Washington still thinks Russia is out to get the West. If that is right, business may be out of touch when the next crisis rolls around.

•
Your son, going in or coming out of the armed services, is liable for eight years. The Universal Military Training and Service Act, 1951, imposes an eight-year military obligation on men entering the services after June, 1951. This holds true, even if discharged men do nothing about signing up for the reserves. These men are in the reserves, for all practical purposes. They can be called up in a national emergency if active duty, plus active reserve service, is no more than five years. Men who have discharged five years of their eight-year obligation can be called back to active duty only by act of Congress.

Heat is building up in the tariff fight, slated for a 1954 showdown. Studies of what policy should be are being made by two groups.

Eisenhower's trade policy commission is low tariff—picked to be that way. It would preserve, maybe extend, the policy of the Democrats.

A Senate committee may move the same way. That's Capehart's group. Ostensibly, it was created to study the good and bad points of financing in the international field—the Export-Import Bank and the International Bank for Reconstruction and Development. But any such study is bound to get into the field of general trade, and tariffs. Senate protectionists are putting on pressure to hold this group to international lending. They fear that the committee may end up by finding that it's not a shortage in banking, but tariff barriers, that discourage trading among the nations.

•
The new Joint Chiefs will approve Wilson's military programs. Their review, due out Oct. 15, will O.K. the whittling that's been done up to now. But further cuts like the \$6-billion Budget Director Dodge wants for next year are out. In fact, the new military team will recommend some increases in neglected areas—guided missiles, antisubmarine warfare, and continental defense. They feel that another big round of cutting can come only as contracts expire.

•
No big bomb shelter program is in sight. Russia's latest experiments with both A- and H-type explosions have revived interest in shelter ideas. But Washington talks down such projects, which would run into huge cost. The plan is to evacuate big cities threatened with attack. The weakness in this is that there may not be adequate warning—no time to get out.

NEW BENCH SCALES • NEW SUSPENDED PLATFORM SCALES • NEW MONORAIL SCALES • NEW PRINTWEIGH SCALES • NEW HANGING SCALES • NEW MOTOR TRUCK SCALES • NEW TRACK SCALES • NEW MILK RECEIVING SCALES • NEW OVER-UNDER SCALES • NEW PORTABLE SCALES • NEW BUILT-IN SCALES • NEW COUNTING SCALES • NEW HOPPER SCALES • NEW FLOOR SCALES



new



44 ways better...

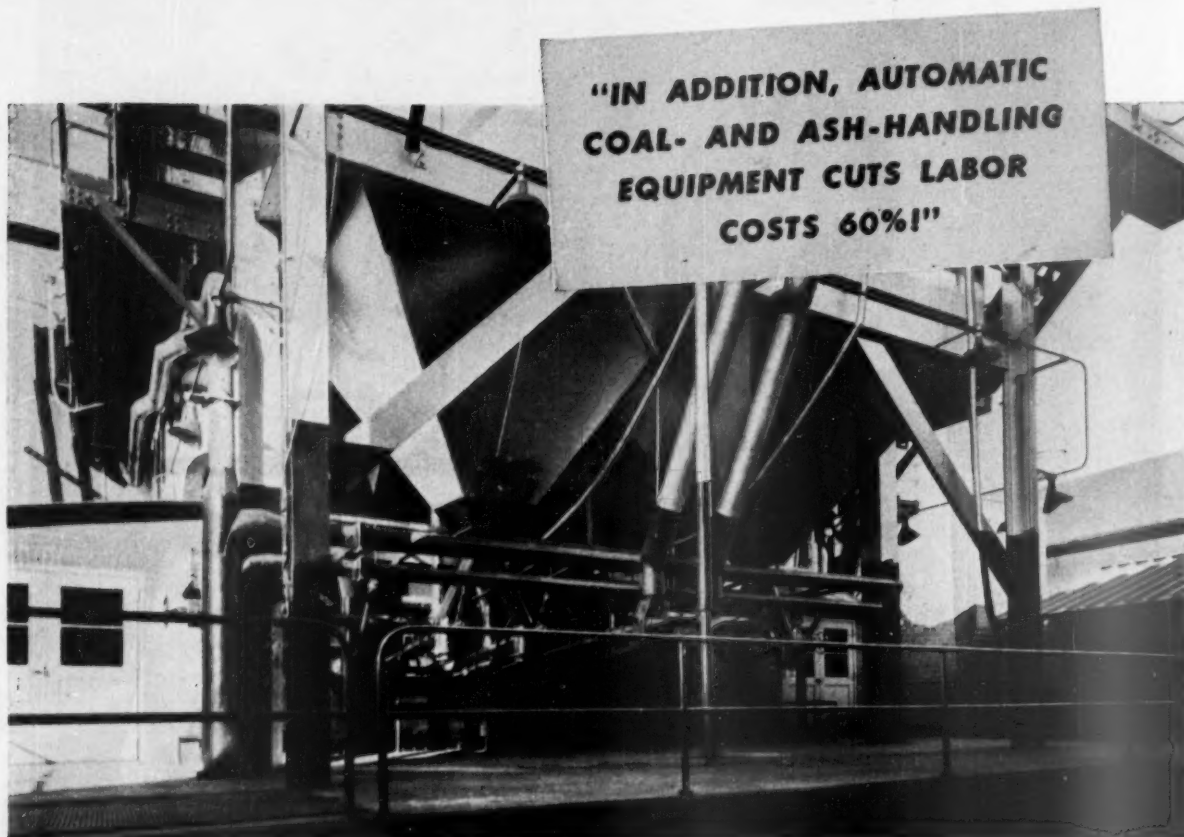
A great new line of Toledos! 44 new features are now added to the traditional accuracy and dependability of Toledo Scales including—double pendulum mechanism in one-piece sector design . . . dial can be installed to face any of eight directions . . . new clean-line design with handsome gray finish. Complete range of types and capacities. Get your scale information up-to-date . . . write today for the new condensed catalog No. 2001. Toledo Scale Company, Toledo 1, Ohio.



Model 2101—New version of the world's most widely used portable dial scale.

Today more than ever **TOLEDO**
HEADQUARTERS FOR SCALES

"WE MODERNIZED OUR PLANT, INSTALLED



This view shows how River Raisin has installed its modern fly-ash re-injection system at the rear of the

boilers but outside the plant. The plant also features outdoor coal handling to save additional interior

space. Coal is delivered to the stoker hoppers through automatic scales which weigh and record the flow.

If you operate a steam plant, you can't afford to ignore these facts!

COAL in most places is today's lowest-cost fuel.

COAL resources in America are adequate for all needs—for hundreds of years to come.

COAL production in the U.S.A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

FOR HIGH EFFICIENCY—FOR LOW COST

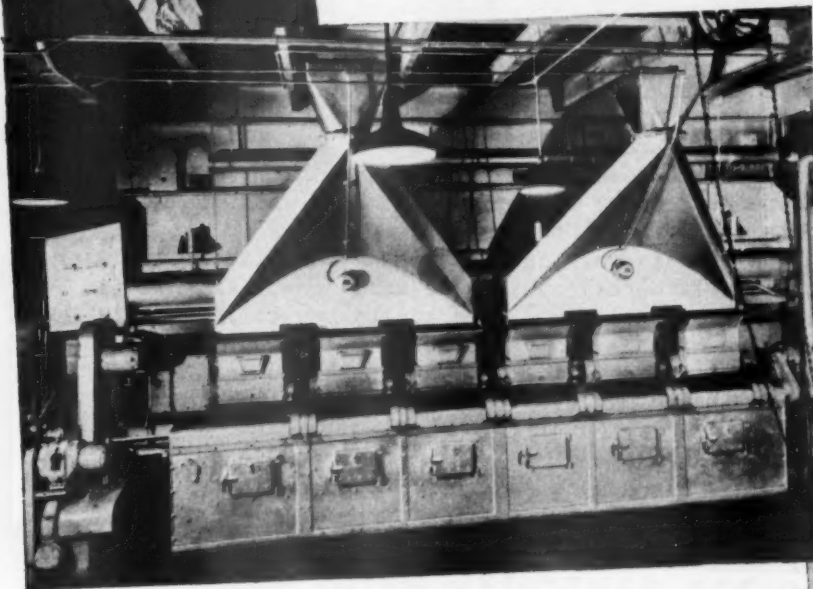
NEW COAL-BURNING EQUIPMENT, AND CUT OUR FUEL COSTS 45%!"



says Mr. A. J. Goetz, Executive Vice President,
River Raisin Paper Co., Monroe, Michigan.

"We recently modernized our entire plant following an extensive engineering survey. New coal-burning equipment was installed...our coal-handling system was redesigned...heat losses

were reduced...efficiency raised. As a result, our fuel costs have been cut 45 to 50%—proving to us that for economy and efficiency you just can't beat bituminous coal burned the modern way."



"These modern spreader stokers fully meet the special requirements of our operation. They feature low power requirements, low maintenance, and have the ability to meet fairly rapid load changes. They give us maximum efficiency under all operating conditions."

Modernizing your present plant? Building a new one? In either case it will pay you to get the *modern* facts about coal from a consulting engineer. He'll show you how an up-to-date coal installation can meet your *specific* needs—and at the same time save you more money than you thought possible.

With automatic coal- and ash-handling equipment you can cut labor costs to a minimum . . . and a modern combustion installation will give you more steam for less fuel. Actually, today, you can get from 10 to 40% more power from each ton of coal than was possible a few years ago.

And, if you burn coal, you'll never have to worry about a shortage of fuel. America's coal reserves are virtually inexhaustible, and this coal is mined by one of America's most efficient and productive industries.

This means that coal users—unlike those committed to other fuels—get the advantage of dependable future supply as well as the most stable prices.

BITUMINOUS COAL INSTITUTE

A DEPARTMENT OF NATIONAL COAL ASSOCIATION
WASHINGTON, D. C.

YOU CAN COUNT ON COAL!

MARKETING

EGOISM (Psychiat): classification and evaluation of things only in terms of one's personal standards and values.

C: Many writers use egoism and egotism indiscriminately. However, the common feeling is that egotism is a nasty, self-centered, "me-first," form of behavior in the extreme. Egoism, however, is the natural placing of importance on the self and one's own personal values. Egoism is a common tendency in all men, and results in passing judgment in terms of one's own standards of what is right and wrong.

EIDETIC IMAGERY (Psychol): remembering by being able to call up and "see" in the mind a vivid, almost real, picture of a previously seen object or situation. Differs from simple memory in that the subject actually seems to "see" the image in greater detail, vividness, and accuracy than possible in simple memory. Although usually associated with vision, the phenomenon may appear in any of the senses. It is common among children, rare among adults.

C: Imagery seems to be something many children have, but are later educated out of by stress upon symbols and non-descriptive aspects of things. One loses the tendency to actually "see," in the mind's eye, big black cow with white spots, when one learns to relate real cow to the word "cow," and not to the image or picture of cow. Some adults can still call forth a picture image of some past experience. They can recall the exact picture of their office desk and tell you just what papers are on it and may even be able to read them in their imagination.

ELECTROENCEPHALOGRAM (Med, Psychol): the record of the electrical output of the brain.

A New Language for Madison Avenue

Marketing researchers can give you an extraordinary amount of detailed knowledge about the consumer. They can tell you, for example, the number of Sacramento families that prefer Gordon's to all other gin (30.6%), or the number of working wives who own pressure cookers and only use them occasionally (28%). What they can't tell you is why consumers act this way. When it comes to explaining the things that spur people to buy or act, the researchers usually have to bow out. They simply don't know—a fact that has long galled advertising men.

Now, however, Madison Avenue is preparing a concerted onslaught on the consumer to find out what makes him tick. The open season on the consumer began this week with the publication of a 27-page book called "An

Introductory Bibliography of Motivation Research." Its publisher is the Advertising Research Foundation—joint research arm of the American Assn. of Advertising Agencies and the Assn. of National Advertisers—which has made its chief name through its continuing studies of newspaper and magazine readership.

This is just the opening gun. ARF is going to follow up with other forays into the field of motivation research, or "MR." The next one will be a glossary of terms, now being mimeographed for checking by ARF members (cut, above).

• **Culmination**—This effort to pry off the top of the consumer's head has been a long time in the making. The

only wonder is that it didn't come sooner. It was foreordained from the moment when economists abandoned the classical concept of Economic Man, which treated the consumer as a kind of mechanical doll jerked back and forth in a perfectly predictable fashion by the laws of prices and wages. In his place we now have Psychological Man who doesn't jump when he's supposed to—who, for instance, saves his money as he did a year and a half ago when everyone assumed that he would spend it.

In an age when discretionary spending power is so important, this puts pressure on marketing men to figure out the consumer's behavior beforehand. One major effort in this direction, watched closely by businessmen,



"OH, GOSH—ANOTHER ACCIDENT!"

"WELL, Jackie, it's a good thing you're not driving a real car, 'cause you haven't yet learned to look where you're going!"

Unlike Jackie, most people today realize that driving a car is serious business. That's why more and more of them appreciate the sound protection that Hardware Mutuals automobile insurance provides. So will you!

Ask your Hardware Mutuals representative to tell you about our automobile insurance, and to recommend liabil-

ity limits that fit your needs. You'll like Hardware Mutuals *policy back of the policy*® that assures you fast, friendly, day-and-night, nation-wide service—plus prompt, fair claim handling. Dividends returned to policyholders since organization now total more than \$110,000,000.

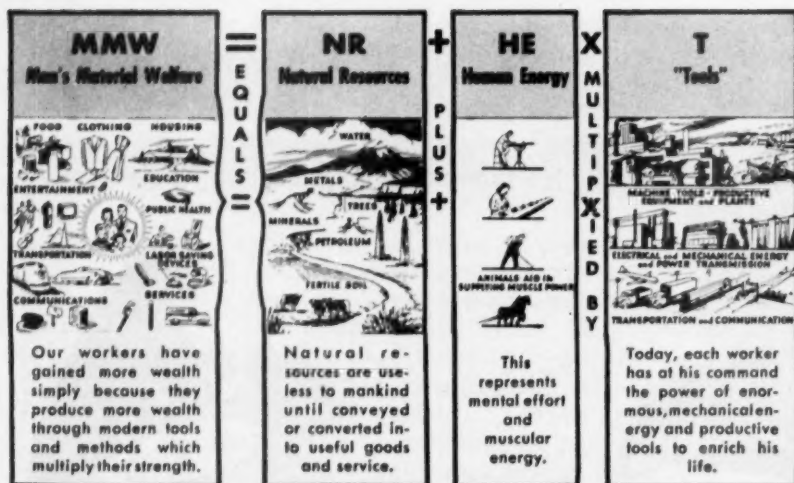
Simply call Western Union, ask for Operator 23, and say you'd like the name and address of your nearest Hardware Mutuals representative. You'll find him friendly, capable and anxious to help you!

Insurance for your AUTOMOBILE...HOME...BUSINESS

Hardware Mutuals.

Stevens Point, Wisconsin • Offices Coast to Coast

HARDWARE MUTUAL CASUALTY COMPANY • HARDWARE DEALERS MUTUAL FIRE INSURANCE COMPANY



Economics Unadulterated

Books on economics often complicate the subject by using confusing words and phrases which obscure the simple truths.

The DoALL Company, Des Plaines, Illinois, believes that more specific illustrations of some of the basic principles will contribute to a better understanding of the subject and its impact on our way of life. The need is to state simple facts of the mechanical operation of the several parts of the economic body in relation to the whole. This is the first of a series presenting these fundamentals.

The illustrated formula above presents the underlying principles. It shows how Americans have attained the highest living standards in the world because we have installed more and better tools than any other nation.

Men today aren't much stronger, can't work much faster than their grandfathers did. Today's torrential stream of goods and services for better, safer, longer living is the direct result of machine tools and telephones, power plants and trucks, engines and motors, gages and farm machines and all the other tools which multiply human energy. Because of increasing use of such tools, output per man hour in the United States tripled during the first half of this century.

Newest basic type of machine tool to multiply man's productivity is the Band Machine. Pioneered and introduced by The DoALL Company in 1935, machines and bands are now available to saw, grind, hone, polish, slice or file any known material. Their most unique feature is that in cutting straight lines or curves, they remove only a narrow slot of material.

Shell Oil Company's textbook "Machine Tools and Their Lubrication" says,



DoALL BAND MACHINES cut any shape, any material. Use of simple fixtures permits automatic, mass production like the slotting operation shown in the inset.

"Contour sawing enables the separation of the unwanted part of the metal by merely removing chips of metal contained in the narrow saw kerf or cut. In all other forms of machining all the unwanted metal must be removed in the form of chips. This fact, as a rule, enables the contour saw to produce the piece of the required shape in considerably shorter time than that required for other forms of machining, since the act of chip removal is the time-consuming part of any such operation."

The DoALL Company headquarters is in Des Plaines, Illinois. There are 38 DoALL Sales-Service Stores in the country, listed in local telephone directories.

DoALL

WRITE FOR WALL CHART "How Living Improves" — free of charge and without advertising matter.

THE DoALL COMPANY
254 N. Laurel Ave., Des Plaines, Ill.

is the Federal Reserve Board's half-yearly studies of consumer buying intentions, developed since the war by the Survey Research Center at the University of Michigan.

The important question here is the way in which people divide this discretionary money between one class of goods and another. What makes them choose venetian blinds, for instance, as opposed to a new car?

• **The Inner Man**—Advertisers are also interested in a second aspect of buying habits. What makes a consumer buy one brand as opposed to another, or switch from Brand A to Brand B? Perhaps the people who are most interested in this are the beer and cigarette makers, whose products have very little differentiation, one from the other. For a long time they have been very sensitive to this fact and also the fact that they deal with a complex mess of habits, tastes, social taboos, medical theories. As a result, there has been a lot of lively research in this area.

The latest effort has just been made by the Chicago Tribune, which set out to "explore basic motivations that prompt people" to smoke and to drink beer. The newspaper used what psychologists call "projective" tests—in which the subject reveals his inner make-up almost unintentionally.

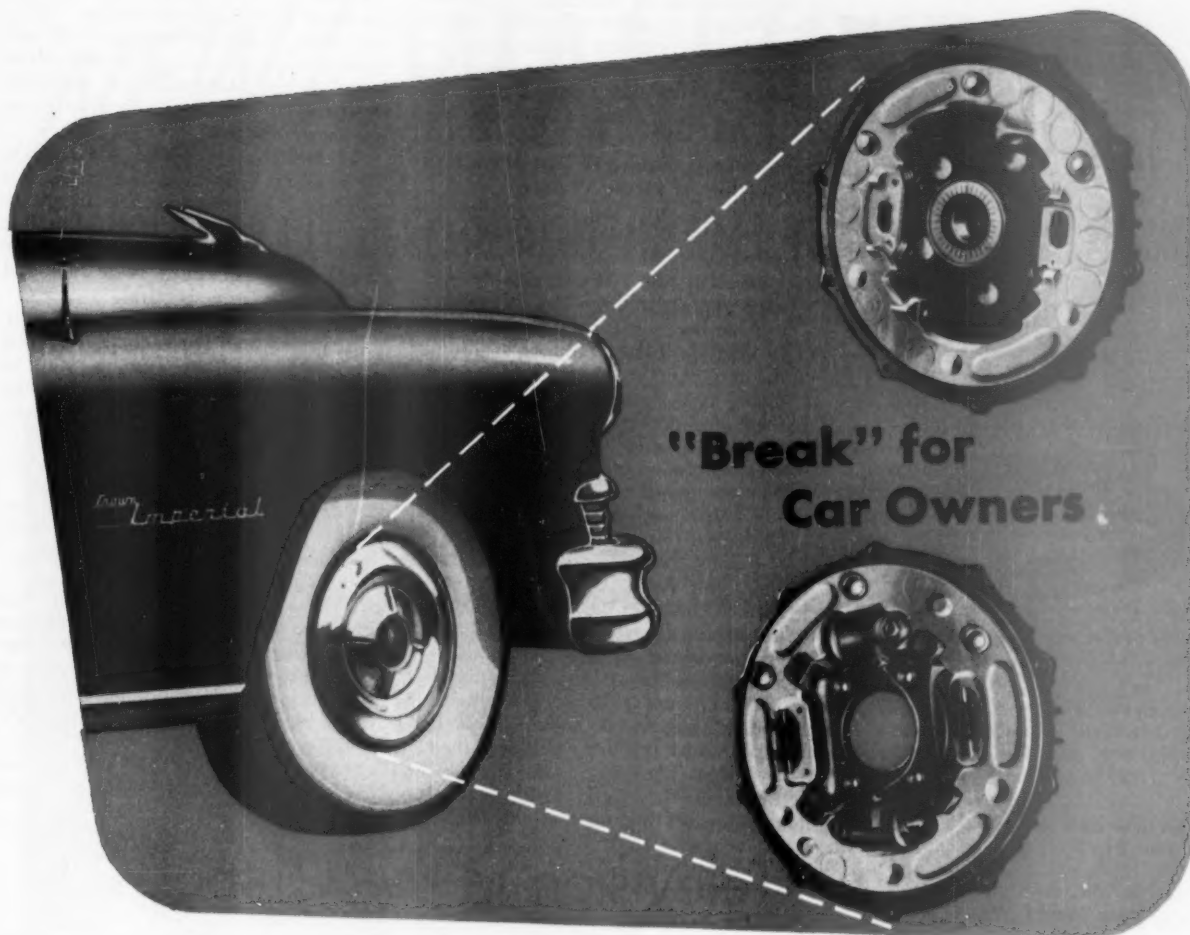
• **Which Way?**—The research bug is spreading. One of the nation's largest food advertisers recently found that its very expensive television show seemed to have reached a point of diminishing returns as regards listeners and sales. It went to its advertising agency. What, it asked, can the social sciences offer by way of explanation of this phenomenon in terms of consumer psychology?

The company found that there's no simple answer. Not long ago, another major advertiser decided to check the findings of one psychological consultant by hiring another expert. It's now holding two completely contradictory reports on the consumer's attitude toward its product.

ARF is trying to steer a straight course through the conflicting claims of various schools of thought, between the Freudians and the Adlerians, between the behaviorists and the Gestalt school. ARF wants to start at the beginning, explain in simple terms for the lay businessman just what it's all about and where to find more information.

Even the ARF, which has called on academic people for help, isn't finding the job an easy one. Right now, on the advice of one of its consultants, it is ducking the task of finding a definition of the very word "motivation." The consultant points out that the word "has a large number of differing technical meanings."

• **Projects**—In introducing the businessman to MR, the foundation is calling



"Break" for Car Owners



Chrysler's Exclusive Self-Energizing Disc Brake* Uses Aluminum in Vital Parts

Two, lightweight, cast aluminum pressure plates are used in the advanced design Chrysler Disc Brake to quickly dissipate heat generated in braking. This is one example of how aluminum's superior heat transfer can be used to advantage . . . in this case to improve braking efficiency and to prolong brake life.

Other advantages that are proving equally beneficial to manufacturers and operators of cars and trucks include aluminum's low cost, light weight with strength, ease of fabrication, electrical conductivity and corrosion resistance. These factors have influenced the widespread use of aluminum for pistons, transmission and torque converter parts, carburetor bodies, gen-

erator and starter parts, battery trays, window frames, trim and a host of other parts and accessories. For more information send for the free folder, "Here's What The Automotive Industry Is Doing With Aluminum."

In almost every industry a change to aluminum has provided manufacturing economies, improved designs and, at the same time, increased sales appeal. Ask Reynolds Aluminum Specialists to help you apply aluminum's advantages to your products and production.

Call the nearby Reynolds office listed under "Aluminum" in your classified telephone directory, or write to Reynolds Metals Company, 2585 South Third Street, Louisville 1, Kentucky.

*Standard Equipment on Crown Imperial Models

"Mister Peepers" returns September 13th on NBC-TV.

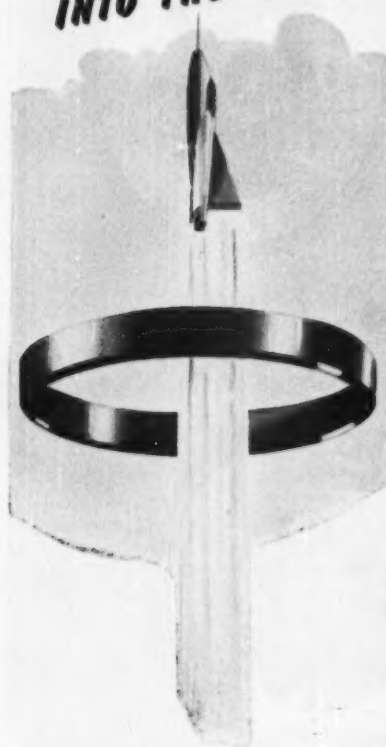
REYNOLDS



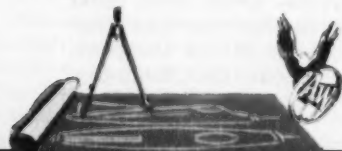
ALUMINUM

MODERN DESIGN HAS ALUMINUM IN MIND

OFF THE BLUEPRINT INTO THE "BLUE"



Since World War I, welding has been our business and today every U. S. jet engine manufacturer is a user of "American Welding" component parts. If your requirements involve either fusion or resistance welding of ferrous or non-ferrous metals, drop a line to our Products Development Division. We can provide complete designing, engineering, metallurgical and machining facilities and will be glad to put our 34 years of welding experience to work on your problem.



**THE AMERICAN WELDING
& MANUFACTURING CO.**
380 DIETZ ROAD • WARREN, OHIO

on a number of academic disciplines—including psychiatry, psychoanalysis, psychology, cultural anthropology, sociology. Its bibliography is the culling of some 160 works out of 2,000 surveyed in these fields. Titles range from *The Story of My Psychoanalysis* to *A Rorschach Study of the Personality Structure of Obese Women*.

The glossary, due to be printed in October, will contain some 600 words or terms, from "abnormal" to "word-association test." It will give the technical meaning followed by a description in plain language for the layman.

After these two projects are out of the way, ARF will publish a complete listing of (1) commercial organizations that do depth-interviews, projective testing, or similar work; (2) professional psychologists and psychiatrists who will take on commercial consulting; and (3) advertising agencies that have psychological testing departments.

Finally, ARF will go one step further, says Wallace H. Wulfeck, chairman of the executive committee at the advertising agency of William Estv Co., Inc., and head of ARF's Committee on Motivation Research: "We will select the techniques we think most promising and ask business to appropriate money for intensive research to develop them."

• **Bridge**—The ARF people, in the words of A. W. Lehman, managing director of the organization, look on

themselves as a "bridge between the business and academic worlds." They are aware, however, that not all academic people are anxious to hold advertisers' hands. Many academic specialists feel that to work with advertisers is to prostitute science.

Wulfeck has a reply for this, though. "Advertisers," he says, "are much less interested in using scientific means to exploit the consumer than to build a solid market. They want to supply people with the things they want and need."

• **Old Mat**—But there is always Madison Avenue, and the terms in the New Language it will be using are not so foreign as they might seem at first glance. One advertising man commented last week:

"Well, take 'voyeur.' Peeping Tomism is the basis for the response to a lot of our illustrations. Or take 'narcissism.' Interest in one's own body is a major motivation in the purchase of women's clothes."

Where Madison Avenue will take Freud remains to be seen. But one thing is certain: The age of depth interviews, projective tests, and the rest of the technical paraphernalia psychologists use is just beginning along Madison Avenue.

Says Lehman: "We'd better get on the bicycle and ride faster than anyone else."

Television in the Outposts

Community antennas and small relay stations can carry TV to outlying towns cut off from regular reception.

One of television's more annoying peculiarities is that it operates on a line-of-sight signal. This means that hundreds of small towns located in depressions, behind mountain ranges, or beyond the range of city TV stations, are unable to receive telecasts. These pockets are on the outskirts of TV's mass market areas, but even so they're the cockpit of a lively battle for control.

One solution for the cut-off town is a community antenna system. An antenna, installed on high ground near the town, picks up telecasts from nearby cities. The telecasts are then piped into the town on a coaxial cable network. Set owners, paying an installation fee and a monthly subscription charge, tap in on the cable network and receive the telecasts.

A second system, more recently developed, may soon be in hot competition with community antennas. This is the satellite station. It's a low-power transmitter used to rebroadcast programs from existing stations to small communities. It might be paid for by the communities, by advertisers, or by

one or more of the big parent stations. This system is being promoted chiefly by Sylvania Electric Products, Inc. There are now two experimental satellites in operation: one in Emporium, Pa., the other in Elizabethton, Tenn.

• **Points in Favor**—Unlike community antenna systems, which do not radiate a signal into the atmosphere, satellite stations would require a license from the Federal Communications Commission. To date, however, FCC has not outlined rules of technical standards for commercial operation of satellite stations. But the promoters of satellites do have a champion in Congress: Rep. Alvin R. Bush, Republican of Pennsylvania.

Says Rep. Bush: "Once a satellite station is established, the community enjoys free TV service." In this, he is pointing up the principal advantage of the satellite system over the community antenna system—cost to the set owner. According to Transvision, Inc., New York manufacturer of equipment for community antennas, subscribers to a community system pay from \$100 to

***NEW!* WALLKYD**

Chemistry's Wonder Alkyd for Wall Enamels

A REVOLUTIONARY DEVELOPMENT IN WALL ENAMEL FORMULATION!

NEW ALKYD-BASE WALL ENAMELS ARE A CINCH TO APPLY...ROLL READILY...BRUSH FREELY...DRY RAPIDLY...WASH EASILY...KEEP THEIR VELVETY BEAUTY FOR YEARS



It's Wallkyd for Handsomer, More Enduring Outdoor Paint Jobs, Too!

Home owners want outside paints to last as long as possible so that their biggest investment in painting . . . a painter's labor or their own time . . . goes much further. That's why more and more manufacturers of exterior paints are adding WALLKYD to their formulations.



Creative Chemistry . . . Your Partner in Progress

REICHOLD CHEMICALS, INC.

630 Fifth Avenue, New York 20, N. Y.

Producer of WALLKYD — and other synthetic resins for the paint, printing ink, paper, plywood, textile and foundry industries.

Imagine a new base for wall enamels that is head and shoulders above any other type. Such a miracle ingredient is WALLKYD, which brings to the home, for the first time, the unique wear-and-water resisting qualities featured in the sprayed-on, baked enamels used to finish today's automobiles, refrigerators, stoves and washing machines. WALLKYD is also an alkyd resin, now available in easily-applied, air-drying form.

Only WALLKYD-base finishes give *all* these advantages:

They go on easily. Anyone can paint like a "pro" and turn out a job that's smoother, freer from brush and roller marks, laps, runs, sags.

They dry in a jiffy. You can put furniture and drapes back in the evening when you paint in the morning. And even if you soil the surface the next day, you'll find it hard enough to wash without marring. There's no lengthy "tender" period.

They come clean quickly. It's so easy, with soap and water, to remove fingerprints, chalk, pencil and crayon marks, dirt smudges, dust accumulations. And don't worry . . . even repeated washing won't wear away the finish.

They work on any surface . . . walls, ceilings, trim . . . plaster, wallboard, metal, wood.

They "cover" better. Solvent-thinned WALLKYD-base wall enamels actually contain more pigment and color (more paint) per gallon, which accounts for their greater hiding power per coat.

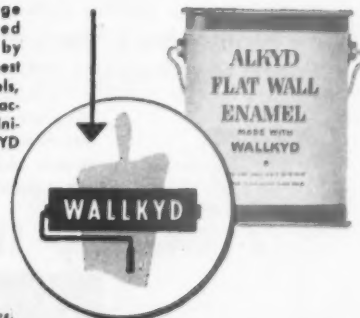
They're tops in beauty. You can't beat the delicate pastels, vibrant deep tones, longer life, resistance to scratching, marring and chipping characteristic of these finishes.

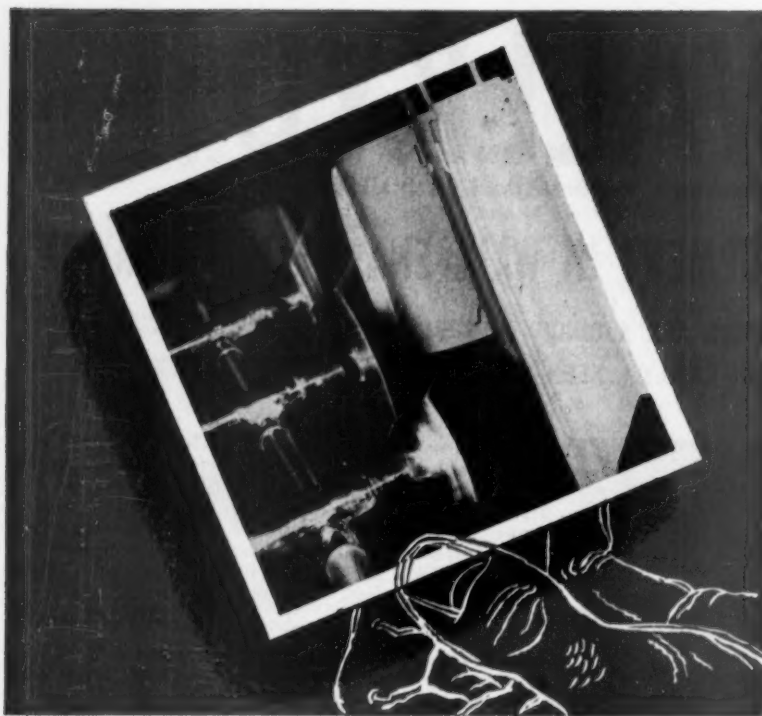
They're free from pungent "wet paint" fumes that smell bad, burn the eyes and sting the nose and throat.

Whether you hire a painter or "do it yourself", you'll want the unusual combination of features available only in a WALLKYD-base wall enamel. Write us for a list of the paint manufacturers now formulating with WALLKYD.

Demand a Brand made with WALLKYD

To get full advantage of the many improved properties imparted by WALLKYD, today's finest alkyd for flat wall enamels, make sure the manufacturer guarantees a minimum of 85% WALLKYD in his "vehicle solids".





This is Painting?

Yes, it's the modern way with the **RANSBURG NO. 2 PROCESS**, an amazing development in electrostatic spray painting.

Spray painting is no longer a hit or miss proposition. It's a science with the Ransburg No. 2 Process. There is **NO OVERSPRAY TO BE EXHAUSTED . . . NO COMPRESSED AIR IS USED . . . NO OPERATOR SKILL REQUIRED.**

Manufacturers of a variety of products report new efficiency percentages never before thought possible . . . efficiencies in the high nineties. With the **RANSBURG NO. 2 PROCESS**, they are getting increased production, higher quality work, and large savings in materials, manpower and money.

WHO CAN USE IT? Almost anyone who produces painted or coated products. Whatever your product might be, if your production volume justifies conveyorized painting, it's possible that the Ransburg No. 2 Process will do the job better . . . and for a fraction of your present costs.

May we send you a copy of our brochure which describes the Ransburg No. 2 Process in detail? It also shows production installations in plants throughout the country.



Ransburg ELECTRO-COATING CORP.

INDIANAPOLIS 7, INDIANA

\$150 to have their sets connected to the coaxial network, and then pay a subscription charge of \$2 to \$5 a month. With a satellite station in his area, a set owner need only put up a conventional TV antenna. Cost: anywhere from \$5 to \$100.

A second advantage of the satellite over the antenna system is lower installation cost for the station itself. A satellite station costs between \$15,000 and \$20,000. A community antenna system might be priced at as little as \$20,000, but because of the high cost of purchasing and installing the cable network, a system could run to \$100,000 or more.

• **Measuring Off**—The struggle between satellite stations and community antennas hasn't really developed yet, but if FCC approves satellites—and Rep. Bush thinks it will—proponents of the two systems will be vying with each other for control of television's fringe areas.

More of these fringe areas may be ripe for one system or the other than was thought a couple of years ago. FCC, with an eye on outlying areas, has allocated channels (mostly UHF) for about 2,000 communities. But UHF is advancing slowly. The commission has issued 275 UHF permits, but only 64 stations have actually gone into operation.

• **Advance**—Meanwhile, with UHF progressing slowly and satellite stations still in the experimental stage, community antenna systems are spreading rapidly. The July issue of Television Factbook lists 244 such systems. Many of them are just getting under way, have few subscribers; but others have been highly successful. The system in Oil City, Pa., for example, operated by Television Cable Co., has 1781 subscribers out of an estimated potential of 3000. In Ellenville, N. Y., the system operated by Ulster County Trans-Video has been running only since January, but it already claims 400 subscribers out of a potential of 1,000.

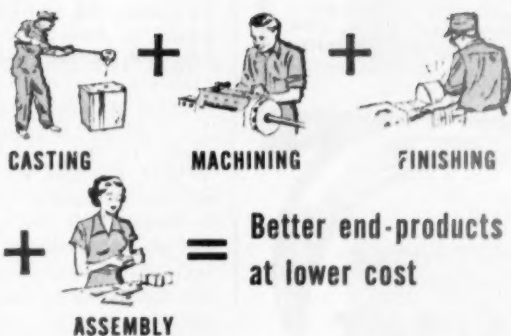
One of the most unusual community systems is being installed on 13,750-ft. McNamee Peak in Colorado. It will receive telecasts from all Denver stations and relay them over coaxial cable to Climax, Colo., located at 11,300 ft., in the heart of the Rockies.

• **Local Programs**—The latest step in community systems is local programming. This is being strongly promoted by Du Mont Television, Inc., and other manufacturers. Du Mont feels that local programming, perhaps more than anything else, will really sell community antennas to small towns. The company is marketing a small, relatively inexpensive TV camera for such installations. At least two community systems, one in Georgia, one in Vermont, have bought cameras.



"Unified Production Formula:"

"Unified Production" is Monarch's unique contribution to the casting industry... UPF* provides wide experience and facilities for solving intricate casting problems. Undivided responsibility—from drawing board to finished castings or assembly—assuring closer control of quality, costs and scheduling. Any way you look at it, it pays to investigate UPF*. Write for Monarch's "Fact-File."



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...BUT
EASY TO
HANDLE**



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Carol Cables made by Crescent's Carol Cable Division are particularly applicable for supplying power to welding machines, large motors, electric ranges, and other equipment that takes heavy electrical power. These cables are designed to withstand the most severe service ... to take sharp bends, twists and pulls ... to resist the effects of oil, sunlight, corona, and weather. They are remarkably flexible and easy to handle.

Each conductor is individually insulated, with an inner paper serving that makes them simple to strip. 2, 3 and 4-conductor cables, rated for 600-volt service, are available.

Carol Cable's integrated and complete manufacturing facilities assure you prompt service, economical price, and highest quality and uniformity.

Write or call for information on Carol cables.



measured up to the rest of the industry this way in 1952...

... But this year they may slip to these new positions:

Volume in Millions of Barrels	Standing	Standing	Volume in Millions of Barrels
6.0	Anheuser-Busch — 2 —	1 — Anheuser-Busch	6.5
4.0	P. Ballantine — 4 —	3 — P. Ballantine	4.4
2.9	Liebmam Breweries — 6 —	5 — Liebmam Breweries	3.3
2.5	F. & M. Schaefer — 7 —	7 — F. & M. Schaefer	2.8
2.3	Falstaff Brewing — 8 —	8 — Falstaff Brewing	2.5
1.8	Jacob Ruppert — 9 —	9 — Jacob Ruppert	2.2
1.5	Pfeiffer Brewing — 11 —	10 — Pfeiffer Brewing	1.8
1.5	Lucky Lager — 12 —	11 — Lucky Lager	1.8
1.5	Goebel Brewing — 13 —	12 — Goebel Brewing	1.8
1.4	Griesedieck Western — 14 —	13 — Griesedieck Western	1.6
1.4	Theo. Hamm Brewing — 15 —	14 — Theo. Hamm Brewing	1.5
		15 — Theo. Hamm Brewing	1.5

1. Data: American Brewer
2. Data: BUSINESS WEEK Estimate

BUSINESS WEEK

Shaking Up the Industry

The 77-day Milwaukee beer strike has been settled for nearly six weeks, but its effects are still being felt throughout the brewing industry. Here's how the repercussions stack up:

- Of the top four national breweries (table), the two with their principal plants in Milwaukee, Pabst Brewing Co., and Jos. Schlitz Brewing Co., will probably each slip one notch in the national standings this year.

- Miller Brewing Co., the real comer in the industry since World War II, but with no brewing facilities outside Milwaukee, probably is taking its first setback this year (table).

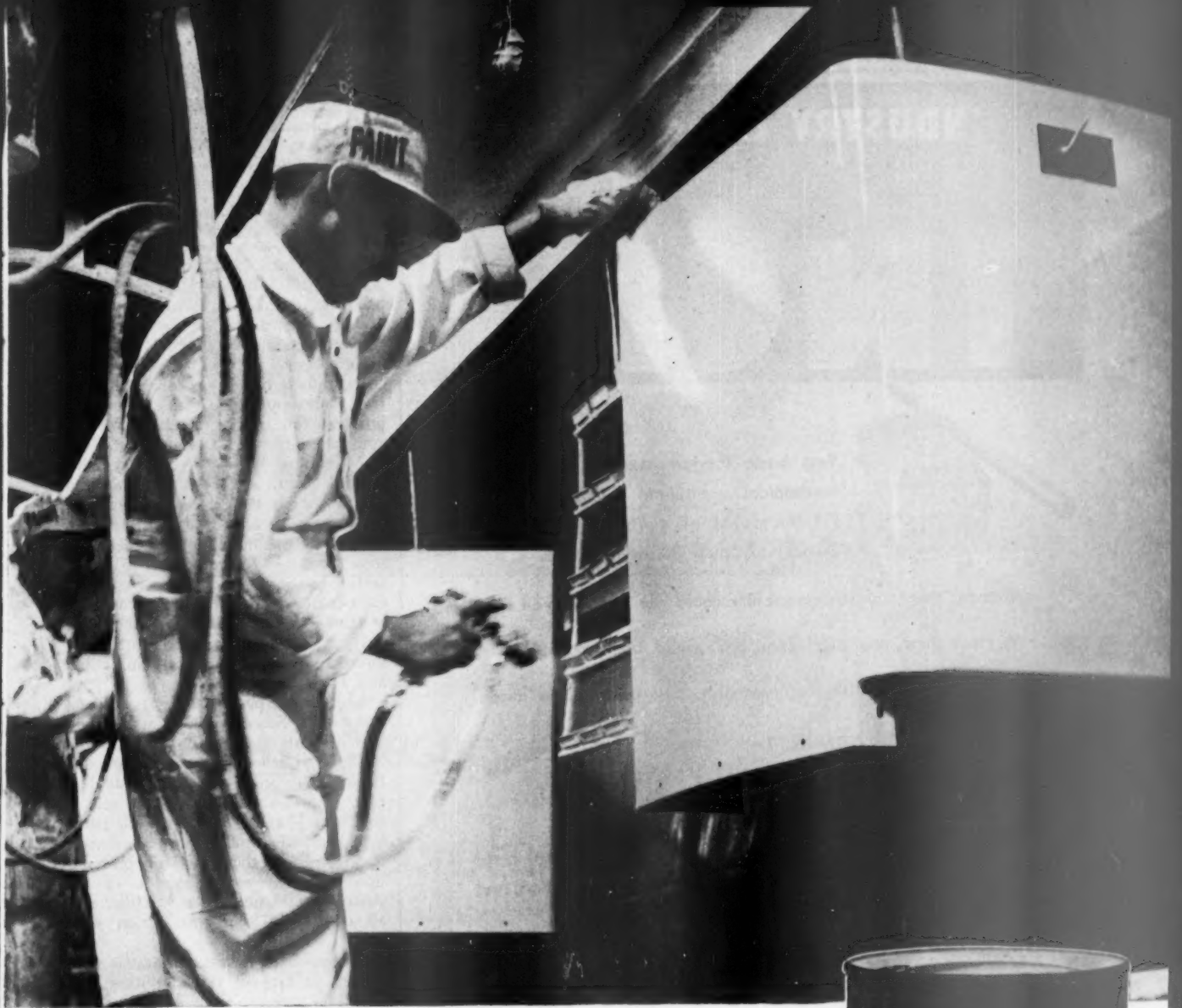
- The Blatz Brewing Co., has been ousted from the Milwaukee Brewer's Assn., ostensibly for negotiating a separate contract with the Brewery Workers' local, and for continuing its fair trade plan, adopted last April.

- Milwaukee brewers may have lost as much as 3-million bbl. of beer business they might have done from May through July. To all people involved in Milwaukee, this could add up to a \$100-million loss in income.

- The strike situation intensified the competitive struggle in the brewing industry, and the principal gainers have been the other national brewers, P. Ballantine & Son, and Anheuser-Busch, Inc. (which should regain top place for the first time since 1945). Several large regional brewers also got a real lift, and some in the industry think the strike may have kept some small, marginal breweries from going under.

- **Painful**—For a brewery, a walkout in May that lasts most of the way through July is bound to be painful. The 77-day Milwaukee shutdown occurred during a period when the breweries usually ship about 27% of their annual output. The union is well aware that this is the most critical period of the year for the industry, and usually chooses the late spring as the time to strike. Three leading Pittsburgh breweries used red ink in 1952, when a walkout stopped production for 105 days.

Nothing so serious as that will be felt in Milwaukee, although its position as the country's top beer producing city may be at least threatened by New



TEAMWORK TRIUMPH

Glidden and Maytag Team Up to Develop Top Washer Finish

When you link the names, "Maytag-Glidden", the hyphen stands for a lot of things. It's a symbol of the close cooperation that has produced high quality, low cost finishing schedules for Maytag Automatic Washers.

It signifies the teamwork that took place in the formulating, developing and testing of finishes to comply with Maytag's rigid resistance and application requirements.

In meeting these standards, Maytag-Glidden teams came up with a new corrosion resistant primer . . . a cost saving flowcoat application system . . . and hot spray application of White Nubelite for improved product appearance.

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Metallic Standard
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13th Century

Two basic fundamentals of all modern mechanical equipment manufacture are (1) Standards of measurement and (2) Devices to apply those standards.

Without them, interchangeability could not be achieved.

Without them, the production line would be impossible.

Without them, usable replacement parts couldn't be made.

Without them, the majority of mechanical assemblies would be economically prohibitive in human effort and time.



Palmer's
Micrometer 1867



Johanson
Gage Blocks, 1897

Without them, science could never have advanced beyond mere speculation, and engineering would be unknown.

Standards of measurement are made by law, and tend to be static. Measuring devices are created and continually improved by ingenuity superimposed on practical experience.



The Precision
Flow Type
Air Gage, 1940

Sheffield has had the privilege of active participation in the progress of precision which has brought the United States to outstanding leadership in this field.



The Visual Gage
Incorporating the
Reed Mechanism,
1933

Industry lives by the inch.

Gage Division, The Sheffield Corporation, Dayton 1, Ohio, U.S.A.



SHEFFIELD

York. (The New York metropolitan area, which includes Newark, N. J., actually produces more beer than Milwaukee.)

• **Shifts**—The reason Milwaukee will get off easier than Pittsburgh is the decentralization program Schlitz and Pabst started years ago. Schlitz has a plant in Brooklyn, and Pabst brews in Newark, Peoria Heights, Ill., and Los Angeles (BW—Apr. 19 '52, p147). These plants were able to provide some beer during the strike.

The geographical move was originally intended as a way of shaving freight costs and spreading national distribution, but apparently can serve other purposes too. Miller, for example, was going to build a \$20-million addition in Milwaukee, but last week, after viewing the results of the strike, said the new plant would be built elsewhere.

Both Schlitz and Anheuser-Busch are building plants near Los Angeles, and soon all of the "big four" except P. Balantine & Son will have breweries on each coast and in the Midwest as well.

• **Hurt**—Miller and Blatz, which brew only in Milwaukee, were both hurt more seriously by the strike than Schlitz and Pabst.

Miller, in particular, got slapped down hard. Since World War II, when it first went into national distribution, Miller's growth has been phenomenal. In 1945, it produced around 600,000 bbl., ranked about 30th. Last year it sold over 3-million bbl., was well established in fifth place. This year, despite its growing popularity, it will probably drop back to sixth, because of the strike. President Frederick Miller says about 600,000 bbl. production were lost.

• **Hopes**—Blatz is less pessimistic than Miller, in face of trade opinion that it will do over 6% less volume than last year, and may slip from 10th to 14th place. Blatz's president, Frank Verbest, says he hopes to do 10% to 15% more volume this year.

Verbest may be counting on two factors. Blatz's fair trade policy is strongly opposed by other Milwaukee brewers, but five Milwaukee retail associations are boosting Blatz because of the price-fixing. Secondly, some union leaders have been quoted as calling Blatz the "workingman's beer," because Blatz negotiated separately with the union and ended the strike.

Still, the fair-trade boosters and the union leaders won't be able to help Blatz too much outside Milwaukee. In the opinion of A. Edwin Fein, of the Research Company of America, over-all beer consumption is only up a hair this year, perhaps 1% or 1.5%. With Blatz, Miller, Schlitz, and Pabst all working hard to recover lost ground, this means a wild scramble for business during the rest of 1953.



Seven Caesars - One Secretary



Julius Caesar . . . Dictator . . . needed 7 secretaries, they say, to keep up with his dictation.

Today, *one* secretary can handle the work of seven dictators, using the Gray PhonAudograph.

And today's Caesars get more done — they don't make a production out of it every time they dictate a letter!

With PhonAudograph, each central recording unit serves many dictators,

through phone handsets on their desks.

The operator attends to the central recorder; a buzzer tells her when to change discs. Using an Audograph transcriber, she gives you *fast signature service* (on long memos, she is typing your first disc while you're on your second!)

But most important, PhonAudograph — the outstanding achievement in phone dictation — provides these *ex-*

clusive advantages: unlimited listen-back; no interference from other stations; built-in communication with the operator; push-button simplicity. Nothing less will do the job . . . because today's Caesars are impatient men!

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PHONAUDOGRAPH and AUDOGRAPH (individual dictation instrument) sales and service in 200 U. S. cities. See your Classified Telephone Directory under "Dictating Machines." Canada: Northern Electric Co., Ltd. Abroad: Westrex Corp. (Western Electric Co. export affiliate) in 35 countries. Made by The Gray Manufacturing Company — established 1891—originators of the Telephone Pay Station.

TRADE MARK "AUDOGRAPH" REG. U.S. PAT. OFF.

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Please send me your Booklet Y-9 on
PhonAudograph *full control* phone dictation.

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Every worker becomes "half-a man" when you let dust hamper his efficiency so that he does only half-a job. The wages you pay for skilled mechanics and technicians are partially wasted when dust stands in the way of top performance.

High efficiency dust control, as provided by DUSTUBE cloth-tube type collectors, can increase employee efficiency, decrease equipment maintenance, stop contamination of your product, and salvage valuable material.

Dustube's virtually 100% efficiency has solved many unique dust problems and has converted excessive losses into attractive profits.

For instance, one plant reports: *"The Dustube has made our operations so much healthier and cleaner that it is indispensable from the standpoint of improved working conditions."*



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WHEELABRATOR & EQUIPMENT CORP.
461 S. Byrkit St., Mishawaka Ind.



Rack Jobbers . . .

. . . do a \$100-million volume handling supermarket housewares . . . New whiskey in old bottle.

The rack jobber is becoming a \$100-million link in distribution. He's the man who handles the housewares business for a lot of supermarkets, warehousing pots and pans for the store operators, stocking their shelves, taking back unsold merchandise—all on a percentage basis.

The American Rack Merchandisers Institute has just estimated that all told supermarkets this year will sell \$135-million in housewares and that of this amount the rack jobbers will handle \$100-million worth. ARMI says the rack jobbers' gain is 40% over last year.

The organization also points to some trends. It notes that the line of goods handled by the rack jobbers is steadily broadening and "now encompasses such items as soft goods toys, novelties, glassware. This is in addition to the familiar stock of cutlery, cake pans, vacuum bottles, and the like."

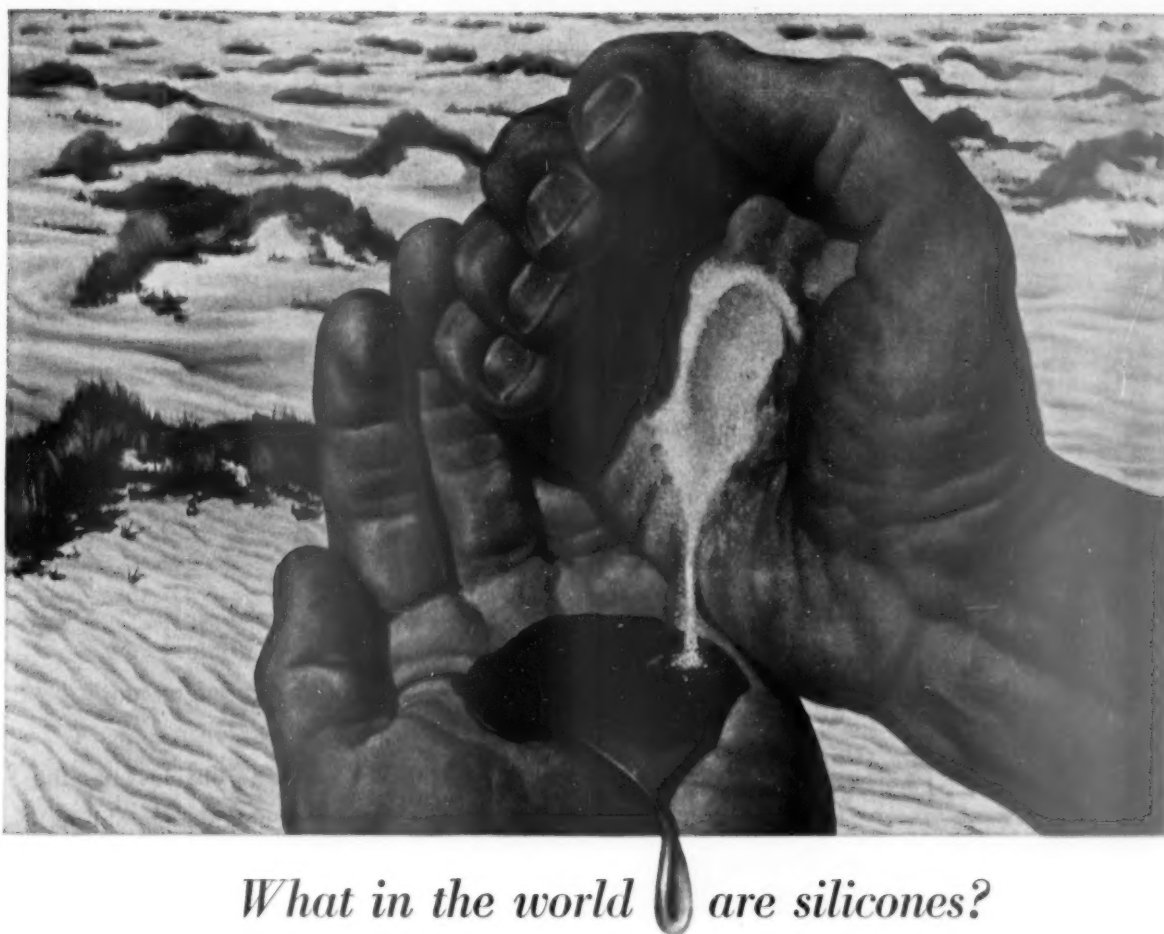
In fact, the rack jobber has reached the point where he doesn't like the term "rack jobber" any more. "Members of ARMI," says the institute, "prefer to be known as service distributors, since the commodity they sell is service."

Stretching the Label

National Distillers Products Corp. is trading on the strength of its Old Crow label to hit a new price market. The company's familiar Old Crow bottled-in-bond bourbon now sells for \$5.99 in New York State. Its new 86-proof Old Crow straight, to go on the market in September, will sell for \$4.95. National is going to put a \$1.5-million promotional campaign behind its most recent entry.

Broadening the market this way is a familiar tactic for National. In the case of Old Sunnybrook, Hill & Hill, and Old Hermitage whiskeys, National markets no less than three different grades under each label—a bond, a straight, and a blend.

In announcing the move, National noted the continued gains made by the straights and bonds as against the blends. In 1950 straights and bonds accounted for 15.8% of total whiskey sales; in 1952, 22.7%; early this year the figure was up another notch, to 23.8%.



What in the world are silicones?

These astounding chemicals—born of sand and oil—hate water, laugh at heat and cold, and are doing remarkable things for you and industry

SILICONES are the fabulous offspring of an unusual chemical marriage between sand and oil. Sand, the basic material for glass, gives silicones some of the best features of glass. Oil, source of many plastics, gives silicones some of the special qualities that have made plastics so useful to all of us.

WIPE ON . . . WIPE OFF—Silicones are the secret of the new, long-lasting automobile and furniture polishes that you simply wipe on and wipe off. Another silicone forms a water-tight bond between tough glass fibers and plastics that go into radar domes for airplanes, boat hulls, even washing machine parts.

WHEN APPLIED TO MASONRY WALLS, silicones are at their amazing best. A one-way street for water, they keep rainwater from penetrating, yet let inside moisture out!

THEY LAUGH AT HEAT AND COLD—Heat-resistant silicone insulation protects electric motors at high temperatures. Yet silicone insulation on jet plane wiring remains

flexible, even in the brutal cold of the stratosphere. And silicone oils and greases withstand both arctic cold and tropic heat!

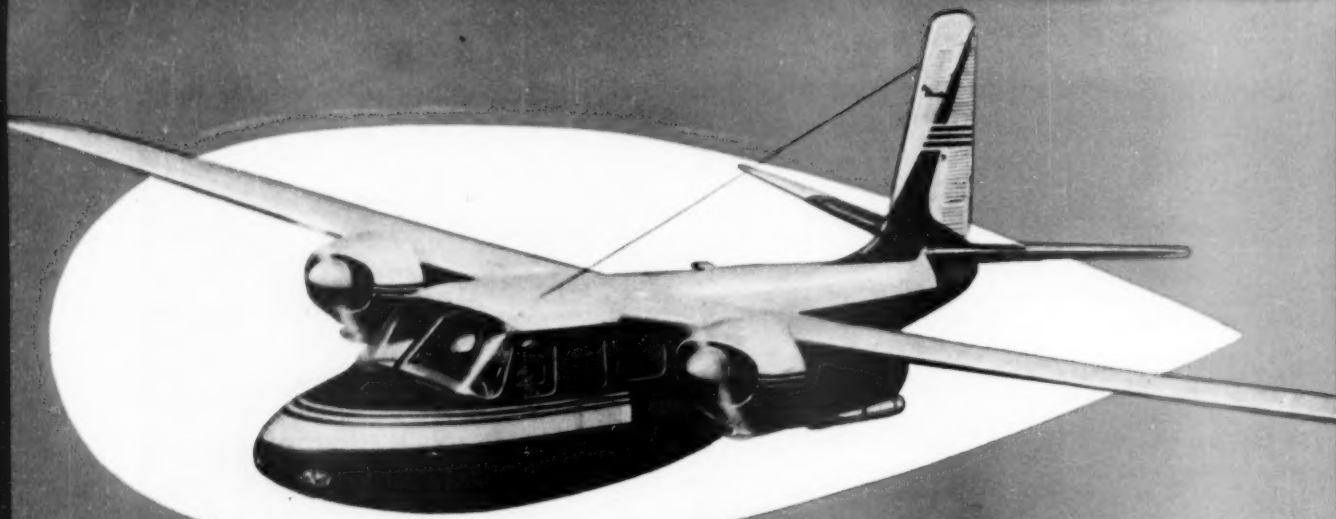
SILICONES AND THE FUTURE—Even the scientists don't know all the answers about silicones. But they do know there is an exciting future ahead for them. The people of Union Carbide, who pioneered in many of the special silicones now used by industry, are helping to bring that future closer to all of us.

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Aero-Commander. Seats 6. Powered by two 260-h.p. Lycoming air-cooled, geared engines.

Safest "offices" over earth

... brilliant new executive aircraft that give America's flying businessmen the double dependability of two Lycoming air-cooled engines.



Grumman Widgeon Conversion. Amphibious flying "office" featuring 260-h.p. air-cooled, geared engines by Lycoming.



Piper Apache. Seats 4. Dependably powered by two 150-h.p. air-cooled Lycoming engines.

You are now looking at the "wings" carrying America into a great new era of safe, economical executive transportation. At a time when more and more companies and individuals are buying their own planes to carry on business . . . more and more are turning to these *twin-engine* aircraft . . . *and for good reasons.*

Each of these luxurious, multi-passenger planes is powered by Lycoming . . . long a leader in the up-to-500-h.p. engine field. Each has the double dependability of *two* air-cooled Lycoming engines—so powerful that the planes can safely fly and land with a full load *on one engine alone.*

To fly American businessmen any time, any place . . . these are the safest "offices" *over earth* . . . the soundest investments in executive aircraft *on earth.*

For further information, write us on your letterhead.

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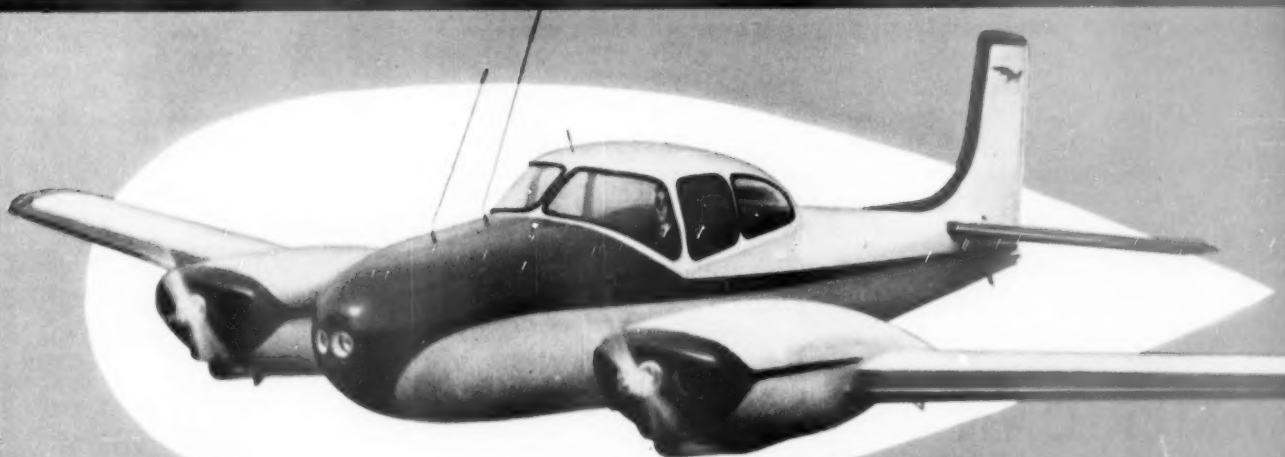
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Lycoming-Spencer Division, Williamsport, Pa.



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Riley Twin Navien Conversion. 4-place executive plane powered by two 150-h.p. air-cooled Lycoming engines.

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It takes only a few minutes to learn how much better your heating can be with American Blower Unit Heaters.

And, for years after you install them, you'll get the benefits of their lower fuel costs, lower maintenance costs and exceptionally long life.

Heavy duty coils, unobstructed outlets for maximum heat diffusion, completely enclosed moving parts are but a few of the quality features which make these units outstanding. They carry Certified Ratings—and are sound-rated, too.

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YOUR BEST BUY IN AIR HANDLING EQUIPMENT

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MARKETING BRIEFS

Book-of-the-Month Club has appealed to the U.S. Supreme Court for a reversal of lower court decisions that upheld the 1948 Federal Trade Commission ruling on use of the word "free." FTC says the word may only be used in advertising merchandise if there is no contingency requiring the customer to buy goods or services. The main pillar of the club's promotion has long been the offer of "free" books to new members who agree to buy at least four books from the club that year.

High-fidelity phonograph equipment continues its rapid spread. Admiral Corp. is the latest to join the fold: This month, it will start delivering a 20-tube hi-fi AM-FM radio-phono combination.

Electric housewares and electric bed coverings are doing well for Westinghouse Electric Corp. In July, sales of the combined items were more than twice last year's July sales. Sales for the first seven months ran 47% over 1952, and the company predicts that housewares will continue strong for the rest of the year.

Jewel Tea Co. reports retail sales hit a record high during the 28 weeks ended July 18. Sales for the period totaled nearly \$128-million—a 9.5% gain over the same period in 1952. The increase came entirely from added tonnage. Meat tonnage in particular was up 28%.

Fast-lensed Brownie movie camera will soon be marketed by Eastman Kodak Co. The new model will feature an f/1.9 lens. Eastman stresses the low price for this kind of camera: \$49.50.

Color TV will have its closed-circuit, commercial debut late in September when Frank H. Lee Co. uses a theater-size color television for a preview of its spring line of hats. The showing will be in New York's Hotel Plaza, and is being produced by Theater Network Television.

Colored salt and sugar will be on the market next spring. Tennessee Food Products, Knoxville, is currently showing samples in various pastel colors. Company president, William Hedges, says he got the idea one morning when he salted his eggs, was called to the phone, came back and salted the eggs again. It occurred to him that orange-colored salt would have shown up on the eggs and kept him from salting them twice.

'Automatic' SPRAY Sprinklers

no better FIRE PROTECTION
at any price!

HERE'S important news for insurance underwriters; building owners; safety, maintenance and planning engineers.

Now, with *new*—more efficient "Automatic" SPRAY Sprinklers, it is possible to obtain substantially improved fire protection *at no extra cost*. Leading insurance organizations consider them superior to conventional approved sprinklers. They are suggested for use on all new construction, and can easily be interchanged with obsolete devices on old style systems without expensive piping rearrangement.

In short, absolute fire safety with "Automatic" SPRAY Sprinklers is worth far more than it costs. It's a long-lasting value that knows no measure.

Better get the facts on "Automatic" SPRAY Sprinklers, the most important advancement of the century in the science of fire protection. Fill out and mail the coupon below for illustrative literature.

'Automatic' Sprinkler

CORPORATION OF AMERICA
YOUNGSTOWN, OHIO
Offices in principal cities of
North and South America

"AUTOMATIC" SPRINKLER CORPORATION OF AMERICA	
DEPT. A	Youngstown 1, Ohio
SEND US BULLETIN 69, "AUTOMATIC" SPRAY SPRINKLERS.	
NAME	_____
TITLE	_____
COMPANY	_____
CITY	_____
STATE	_____



BYERS SNOW MELTING TURNS YOUR SIDEWALKS INTO SALESMEN

When snow starts falling this winter, plan to be among the growing number of snow melting users who have discovered that dry, hazard-free sidewalks pay-off handsomely in customer good will. You'll find that this thoughtful gesture on the *outside* is just as important as polite salesmen and quality merchandise on the *inside*! And, it eliminates a recurring maintenance chore!

Byers Wrought Iron pipe has long been the No. 1 choice for snow melting installations. Coils of this time-tried material, embedded in sidewalk or driveway, carry hot water that makes snow disappear as it falls. Genuine Wrought Iron is easy to weld, resists corrosion, and withstands damage during installation. Because it keeps serving when vulnerable materials fail, it's the dependable way to add sidewalks to your sales force.

This new bulletin covers the entire field of snow-melting . . . design, installation, operation . . . and explains why dependability demands the use of Byers Wrought Iron pipe. We'll be glad to send you a copy on request. Write A. M. Byers Co., Clark Bldg., Pittsburgh, Pa.



BYERS
WROUGHT IRON



HUNTING FAN pulls into Fieldale, practice shooting preserve run by Chicago's Marshall Field & Co. as a branch of the Gun Shop in its Loop store.



GUN SHOPPING in Fieldale Sportsman's Shop, customer picks rifle, turns to . . .



JACKET SHOPPING to complete outfit. Shops plus game fees make Fieldale pay.



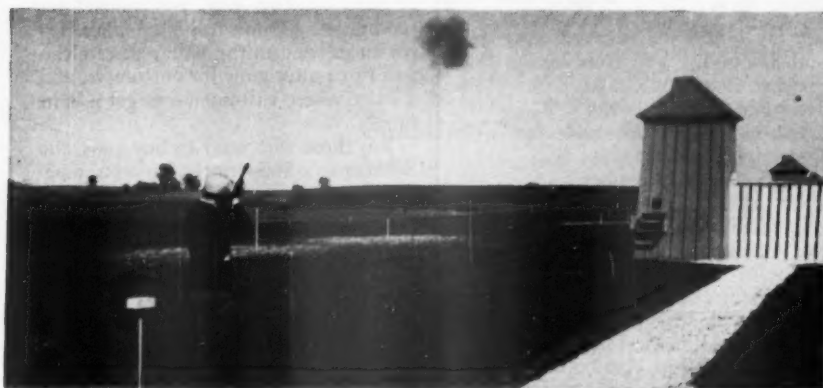
HUNTERS compare notes. Five of the clay-target games are laid out in terrain to simulate natural hunting conditions. Targets pop out by remote control.



GROUSE range has a path lined with imitation grouse cover. Fast, low-flying targets dart out in the flight patterns of the birds.



QUAIL walk, 1,000-ft. long, looks like a country lane. As gunner walks, man behind him sets off 43 traps along the way by stepping on concealed levers.



SKEET shooter scores a hit. Targets are propelled from traps in tower. There are also trapshooting fields. Fieldale can handle 125 gunners an hour.

Field's Decoys Gun-Happy Customers

Marshall Field & Co. believes in mixing business with pleasure. Chicago's top department store has turned a 192-acre tract of land 30 mi. northwest of the city into a practice shooting preserve for hunters. Since last October, it has been running the one-time farm as an adjunct to its nationally known Gun Shop in the main Loop store.

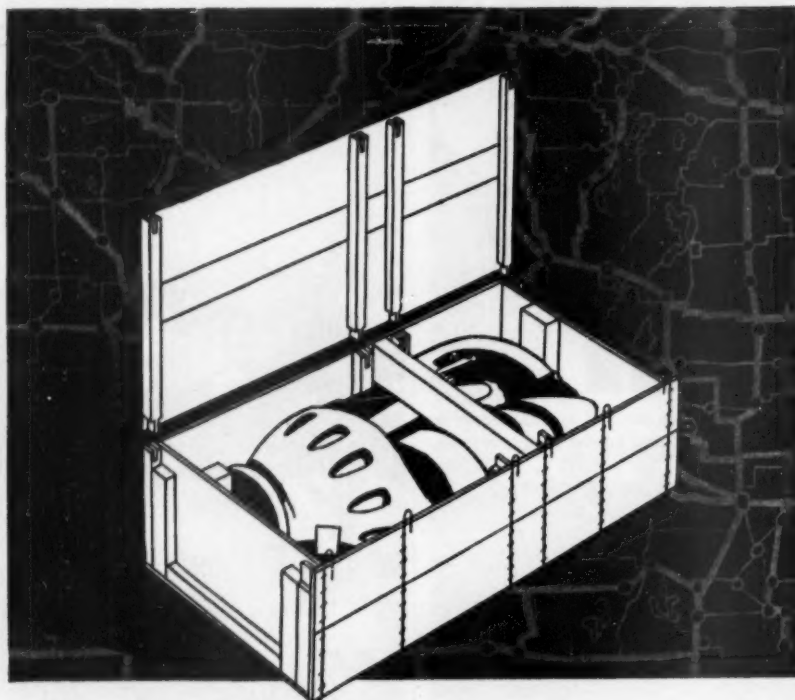
• **Hunter's Meat**—At Fieldale, as Field's

calls the farm, hunting fans get a crack at five clay-target games laid out in the rolling hills and fields to simulate hunting under natural field conditions: a duck range, a rabbit run, a quail walk, a grouse range, and a "flyer ring" copied after the European pigeon shoot at Monte Carlo. There are also eight skeet and trapshooting fields (skeet is the form of trapshooting where targets

are propelled from traps—usually in towers—so as to duplicate angles of flight found in wing shooting).

The idea is to give experienced hunters a chance to practice under almost normal conditions in closed seasons, and to give beginners a place to learn to shoot, under qualified instructors.

• **Payoff**—But there's also a sales angle: Field's has converted the barns and



No matter where it's bound
SHIP IT WIREBOUND!
 and Slash Damage Claims



If damage claims are giving you trouble... look into Wirebound Boxes or Crates. Wirebounds give your product better protection because they are tailor-made for the contents — strongly built to take it. Their high strength steel and resilient wood construction absorbs jars and jolts — protects without adding costly weight. No matter what your product's size, shape or weight, Wirebound design flexibility provides countless combinations that will carry the most difficult loads. So, if you want to slash damage claims and assure safe arrival — be sure to ship Wirebound. Get the whole safety-in-shipping story from a Wirebound Sales Engineer.

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WIREBOUND BOX MANUFACTURERS ASSOCIATION
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- ☐ Have a sales engineer give me the whole story
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GIVING THE ONCEOVER, hunter decides whether to buy one of special custom-made guns in Fieldale display room. Fancy models sell for up to \$2,000.

farm buildings on the place into a Sportsman's Shop with a complete line of guns, hunting gear, and apparel for the hunter; a Gunsmith Shop where experienced gunsmiths will repair, clean and fit or alter guns for customers; and a lodge where customers can get a light lunch.

For those who want to buy guns, the Sportsman's Shop carries an array ranging in price from \$75 to \$2,000 for special, custom-made jobs. The average hunting fan lays out between \$150-\$300, says Field's.

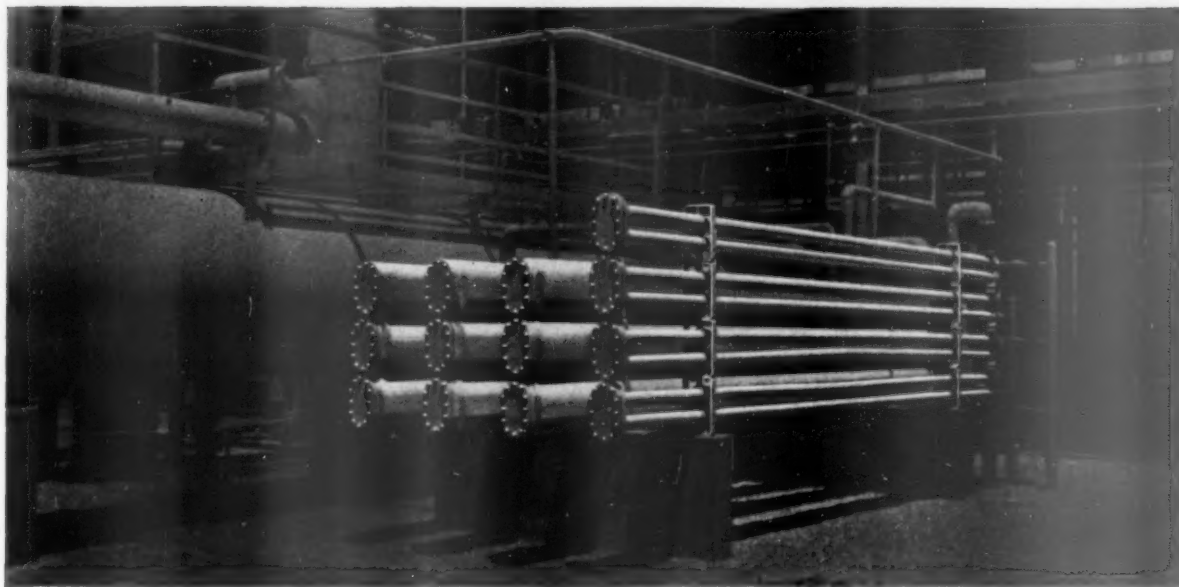
Customers also pay to play the games. Fieldale, which can handle 125 gunners an hour, is open to the public. It claims to have the only skeet and trap-shooting fields in the country outside of private clubs. Field's charges no club fee for use of the games. Only charge is for ammunition and targets. Rates are \$3 for a round of 25 shells and targets on the skeet and trap field, \$4 for a round on the other games.

• **Hunting Set**—The idea for Fieldale cropped up from the need for a practice field to try out and fit guns sold by the main store's Gun Shop. It proved a hit right from the start. Weekends naturally draw the biggest crowds but Wednesday and Thursday get good turnouts of professional men. Peak weekend attendance has run as high as 1,500, averages about 600.

About 75% of the comers are shoot-

Assure Flexibility

in your plant with



BROWN FINTUBE *Sectional* HEAT EXCHANGERS

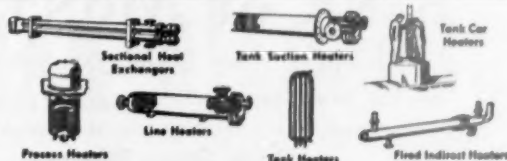
● Production schedules — and processing techniques change. Consequently, you can never know positively, what your fluid heating and cooling needs will be next year — or even next week. Because Brown Fintube Heat Exchangers consist of *standard sections* connected in proper series-parallel arrangement, they can be rearranged easily and quickly to meet changing conditions.

You simply add, or remove, a few sections, or change the series-parallel manifolding. The plant can be operating efficiently, on almost any new duty, on short notice, — and with a minimum investment in new equipment. "Bundle" type exchangers are not flexible. For them a change involves the delay and expense of designing — and waiting — for a whole new unit.

Flexibility is only one of Brown Fintube's many advantages. You'll find full details in our Bulletin No. 512. Send for a copy. It will give you ideas.



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FINTUBE CO.**
Elyria, Ohio



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World's largest exporter of aluminum—Canada will double her capacity to produce this strategic metal when the new Alcan smelting plant, now under way at Kitimat in British Columbia, is completed. Already, Canada is second only to the U. S. in aluminum production—and when the Kitimat job is done, she may be a contender for first place in world production, as she now is in exports.

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To explore the natural advantages which this growing nation offers to expansion-minded businessmen, call on Canada's First Bank, with 575 branches coast-to-coast. Since 1859, the Bank of Montreal has maintained branches in the U. S. to assist American enterprise in Canada. Contact any of our U. S. offices, or write direct to our Business Development Department, at our Head Office in Montreal.

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Chicago: Special Representative's Office: 38 South Dearborn Street

Head Office: Montreal

575 BRANCHES ACROSS CANADA... RESOURCES EXCEED \$2 BILLION



GRABBING A BITE of lunch in Fieldale lodge, sportsmen get mostly informal fare—chowder and sandwiches. Field's regards the setup mostly as a customer service.

crs. It's especially popular with fathers, who like to bring Junior out for a lesson, outfit him with his first gun and gear. But a surprising number of women come out and bang away, too.

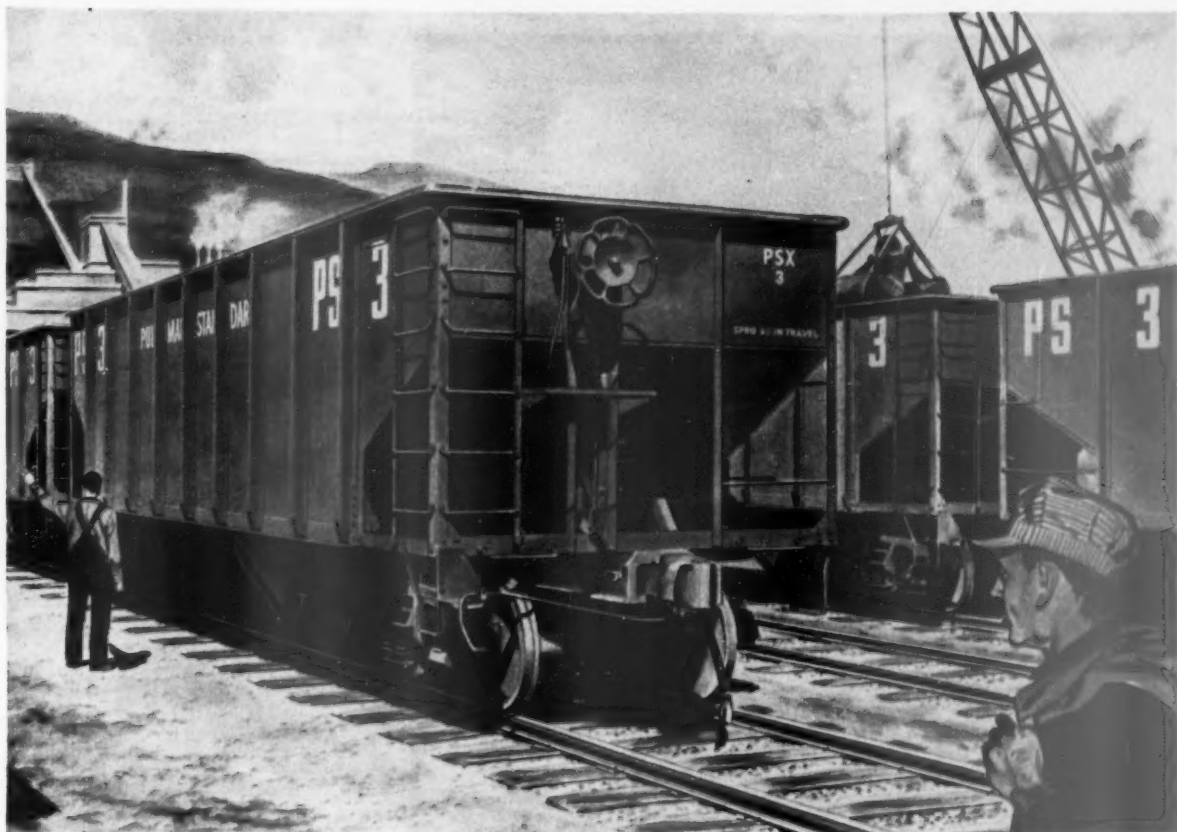
• **Financing**—Field's says it employs between 30 and 50 people, depending on the season. Store executives won't reveal Fieldale's cost or sales, but they say happily that it has already exceeded their plans and expectations. They regard Fieldale more as a service to store customers—like the restaurants in downtown stores—than as a profit-maker.

Recently, along with its local advertising promotion, Field's has started advertising Fieldale in the New Yorker magazine and national sporting publications.

Sales Tie-ins Bring Some Odd Bedfellows

• New and unusual tie-in promotion schemes are cropping up everywhere this month. Two examples: Post Cereals division of General Foods Corp. will market its Grape-Nuts flakes packages with woodworking patterns inside. Also behind the campaign are Chicago's Mall Tool Co., portable electric tool manufacturer, and the Douglas Fir Plywood Assn.

• Princeton Knitting Mills, Inc., Bendix Home Appliances division of Avco Mfg. Corp., and several leading apparel manufacturers, are jointly sponsoring a campaign to promote consumer wardrobes made of wonder fabrics that can be washed and dried in automatic home laundry equipment.



The Standardized PS-3 Hopper Car

What's special about standardized freight cars?

—their higher quality is produced more economically

Three standardized freight cars; the PS-1 Box Car, the PS-2 Covered Hopper Car, the PS-3 Hopper Car, provide maximum income-producing value per dollar invested.

Their designs are the products of Pullman-Standard engineers—engineers with the experience and resources not only to create but also to prove components and completed cars. Their construction reflects the advantages of continuous production—the added strength and economy of specialized tools and techniques. Their stamina and continual improvement are assured through laboratory tests by Pullman-Standard Research and Development, and by actual “on-line” checking by Sales and Service engineers.

Proving that standardized cars are a sound, revenue-building investment, 50,000 PS-1's are now serving 56 railroads.



Facts about these cars are included in three new booklets. • Write for a copy of any one, or all three.

WORLD'S LARGEST BUILDER OF FREIGHT AND PASSENGER CARS

PULLMAN-STANDARD

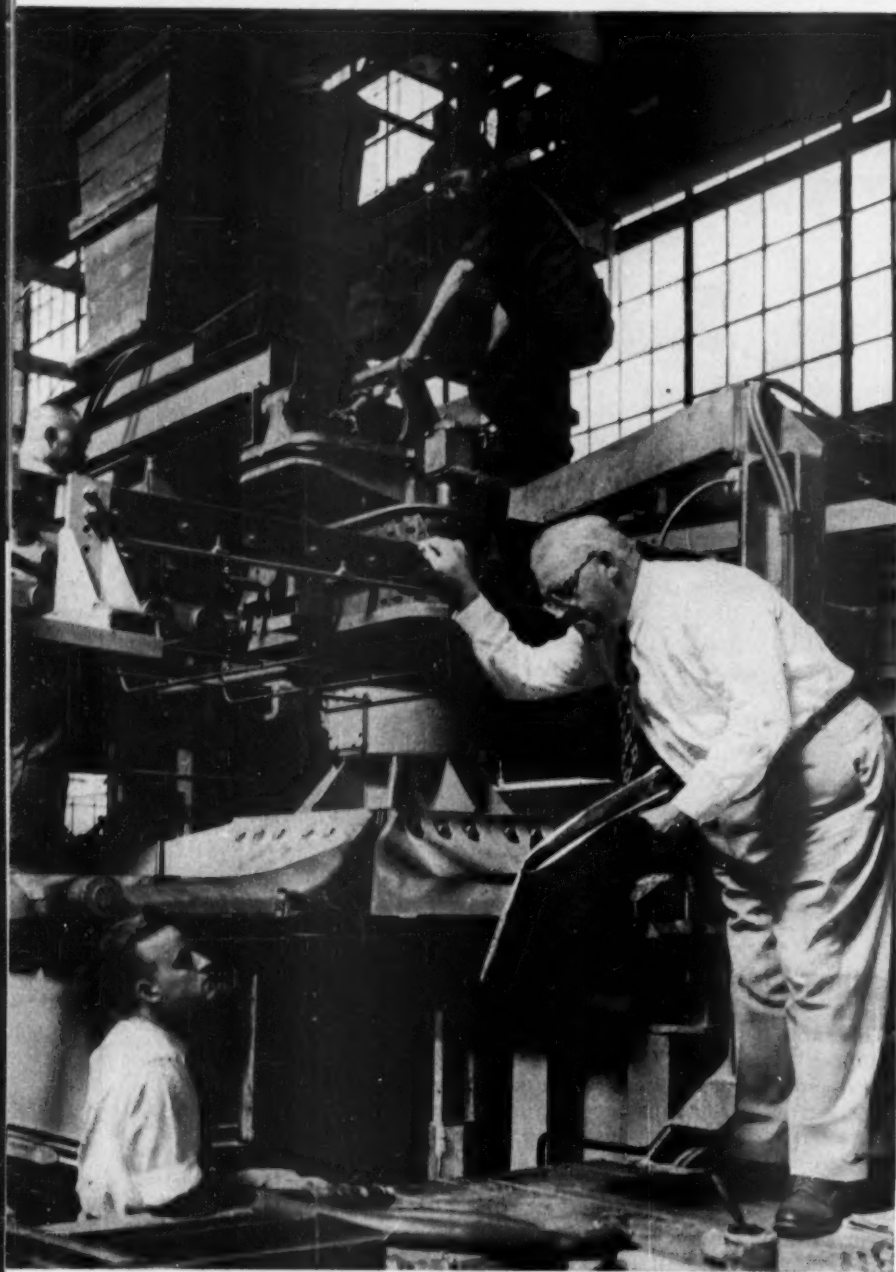
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PRODUCTION



MOLD-MAKING MACHINE at Osborn Mfg. Co. is a start toward . . .

Automation for the Foundry

Modern industrialists compare the old-style iron foundry with a Siberian salt mine. About the only difference worth noting is that the foundry was ferociously hot. Productivity was low; jobs were dirty and backbreaking; working conditions were among the worst in industry.

The foundry has come a long way since those early days. Many of its

operations are now mechanized. Some foundries are even air conditioned. And more and more, they're moving toward automation.

Among the influences that have brought about this change is Osborn Mfg. Co. The company has been making foundry machines and equipment for over 50 years. Three years ago, it was the country's biggest manufacturer

of manually operated machines for making cores and molds (shapes for, respectively, the inner and outer contours of a metal casting). Now, sparked by Leon F. Miller (picture)—a vice-president and chief of the company's machines division—Osborn has turned its attention to automatic machinery.

• **Contributions**—Its first automatic machine, introduced in 1950, made cores. A core, like a mold, is made of hard-packed sand. Normally it's a job for manual workers, who can turn out about 30 cores per man per hour. Osborn's machine made 180 per man per hour. The company sold its first 60 machines as fast as it could build them.

Last week Osborn chalked up another step toward foundry automation. It delivered its first mold-making machines to Buick Motor Co. at Flint, Mich. Each machine, handled by two operators, will turn out about 240 molds for engine cylinder blocks per hour. By manual methods, it takes four workers an hour to make only 50 of these molds.

• **Troubles**—Preparation of sand and operation of cupolas (furnaces for melting metal) are now the only foundry jobs that haven't been touched by automation. Osborn will probably look into those processes sooner or later. But even if it does, and even if it invents practical machines for the two functions, the foundry industry will still have a long way to go before it reaches the degree of automation you find in—instance—petroleum refineries.

Conservatism of the foundry industry has had something to do with this lag. Much tougher to overcome, though, have been the peculiarities of foundry operation.

A foundry doesn't lend itself to continuous-flow operations, as does a refinery. Castings are generally made in limited batches. You heat a certain amount of metal in a cupola, make a certain number of molds and cores, turn out a certain number of castings. Then you go back and heat some more metal. That kind of process is hard to turn over to automatic machinery.

• **Steps**—But making an entire factory automatic is only an extension of making a specific operation automatic. By drawing on its experience with core and mold machines, Osborn may some day figure out how to mechanize an entire foundry.

The basic problem in most automation projects is replacing manual operations with mechanical ones, without losing the natural quality control of the craftsman. In the case of Osborn's mold maker, the switch from manual to mechanical is based on five main operations. Since a mold is made in two halves, which are later joined together, the machine does its forming work in



THE price of almost everything you buy today is a good deal higher than it was in 1939.

The U.S. Cost of Living Index has gone up 87%.

The cost of building a new home is up 141%.

The F.O.B. price of a new, popular-priced 2-door sedan is 148% higher.

Even railroad freight rates—which are set by the U.S. Interstate Commerce Commission—are up 82%.

The reasons for this are obvious. Prices are higher because costs are higher.

Costs in the oil industry are no exception. The cost of building a Union Oil Service Station has gone up 200% since 1939. Our other construction costs are up 149%. Steel pipe—a material we use by the trainload—is up 88%.

In spite of all this, the price of our 76 gasoline has gone up only 66%*.

Why aren't gasoline prices higher? First, our U.S. oil companies are operating in an intensely competitive industry.

Second, U.S. oil companies are big enough to finance vast research programs. So technological progress has been great.

By plowing back profits into better facilities, by improving processes and products through research, by eliminating waste, our U.S. oil companies have been able to offset rising costs with greater efficiency—and keep their prices down.

*Average U. S. prices for all gasolines have increased no more than this.

UNION OIL COMPANY OF CALIFORNIA

Incorporated in California, October 17, 1890

MANUFACTURERS OF ROYAL TRITON, THE AMAZING PURPLE MOTOR OIL

**LOADING TIME
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**WASTEFUL HAULING
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Wayne Loading Dock Ramps can slash 75% from truck loading time . . . Wayne Platform Lifts speed inventory stocking . . . Wayne Cross-Over Bridges eliminate round-about hauling. From unloading of raw materials to loading of finished products, there's a Wayne Industrial Lift to speed your production, cut handling costs.

Wayne Lifts are custom-engineered to your plant's requirements . . . designed to save you time, labor and money . . . keep maintenance and down time at minimum. Other Wayne Lifts include truck lifts, sidewalk elevators, service lifts—all "precisioneered" for years of trouble-free operation and stepped up production. Write today for new Wayne Industrial Lift Booklet.

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two sections. The sections go through the first four steps simultaneously:

- Each section cleans its half of the pattern—a dummy duplicate of the finished casting.

- The flask—container in which the mold is formed—drops into place around the pattern half and fills with sand.

- The sand is jolted and squeezed around the pattern half until it's hard enough to support molten metal.

- The finished mold half is stripped from the pattern, ejected from the machine section, and loaded onto a conveyor line.

For the last step, a third section of the machine takes the two mold halves and fits them together precisely. The result is a negative form of the pattern. The mold then leaves the machine, goes to the pouring section of the foundry. There, a crew of workmen pours molten metal into the mold, lets the metal cool, and breaks the sand mold away to reveal a finished casting.

If the casting has to be shaped inside as well as outside—if, for instance, it has to have an odd-shaped hole in the middle—the mold-making machine needs three operators instead of only two. The third man puts a core into one half of the mold before the two halves are joined.

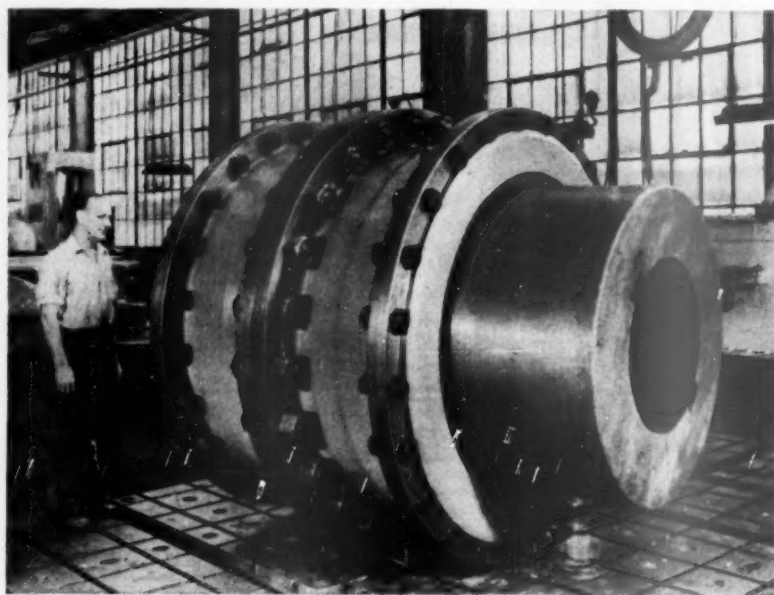
- **New Problems**—One of the drawbacks to automation is that it often creates as many problems as it solves. Take Osborn's core maker, for instance. Cores must be baked at high tempera-

tures before they're hard enough for use. But the output of Osborn's machine is so high that conventional ovens can't handle the work fast enough. To avoid frustration, a foundry using an Osborn machine has to boost the capacity of its ovens—an engineering problem by itself.

The same is true of Osborn's mold maker. Foundrymen who have seen the machine feel it'll lead to all sorts of trouble. It'll swallow 60 tons of sand an hour—more than a railroad gondola can carry. On a round-the-clock schedule, a foundry using the machine would need 1,440 tons of sand a day. That's more sand than most foundries can get hold of. And most foundries will find themselves hard put to cook up enough molten metal to keep up with the machine's output of molds.

Osborn's engineers realize that their machines are too efficient for today's foundries. That's to be expected any time you introduce a fast, automatic machine into a predominantly manual operation. The rest of the work lags behind the machine. The solution is to put the rest of the work on automation, too. Right now, Osborn's engineers are working on faster materials handling systems to tie in with the machines.

- **Promotion**—The company hasn't planned any sales promotion of its new mold maker. It feels that its best advertising will come naturally, after the first few machines go into operation in foundries.



A Harness for 62,000 Horses

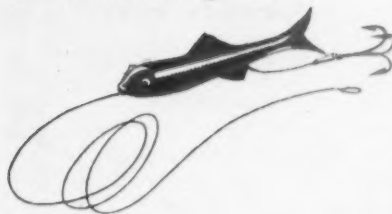
This industrial coupling, made by Koppers Company, Inc., at Baltimore, will handle up to 62,000 hp. when it's installed at a

steel mill in Milan, Italy. It will connect an electric driving motor to an 11-in. steel-plate mill, and will adjust for misalignment.



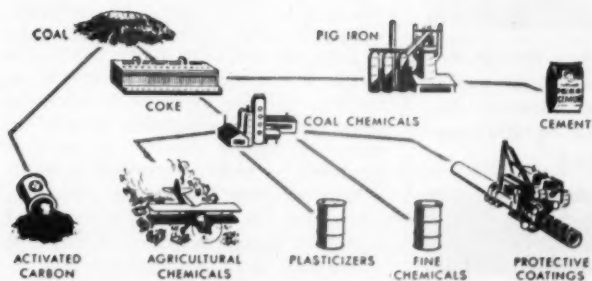
This Lady
is a first cousin
to your

New Fishing Lure



YOU'D never expect to spot a kinship between a 12-story high blast furnace and a half-ounce plastic fishing lure, would you? But at Pittsburgh Coke & Chemical, the family tie is *basic*. For the very coal that produces coke for Neville Pig Iron also yields coal chemicals for making Pittsburgh PX Plasticizers, the important "flexibility ingredients" in fishing lures and a thousand other useful plastic products in your daily life. Today, in our 25th Anniversary Year, the products of the company's ten divisions are as diverse as cement and dyestuffs. Yet the production of every division is knit together, at a single plant site, in one continuous, interlocking pattern. This highly developed integration—almost without parallel in modern industry—provides distinct benefits to our customers: Assured product quality and dependable, continuing supplies . . . because Pittsburgh is *basic*.

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OVER 50 YEARS BUILDERS OF MATERIAL HANDLING EQUIPMENT

Porcelain Coat . . .

. . . on aluminum finds
new field in gift market.
Temperature control for new
frit is the key.

Ceramics engineers for years have
been predicting a tremendous future
for porcelain enamel applied to an
aluminum base. The base material
would be relatively lightweight and
inexpensive. It could be drilled and
cut in the field. It wouldn't corrode if
the decorative or protective coat got
chipped.

Most of the development work was
aimed at the Navy, which liked the
lightweight aspects. But the aluminum
producers and frit manufacturers were
also interested in the process as a new
market. Despite all the research, the
chief items produced commercially in
any quantity have been store fronts
manufactured by Kawneer Co. of Niles,
Mich.

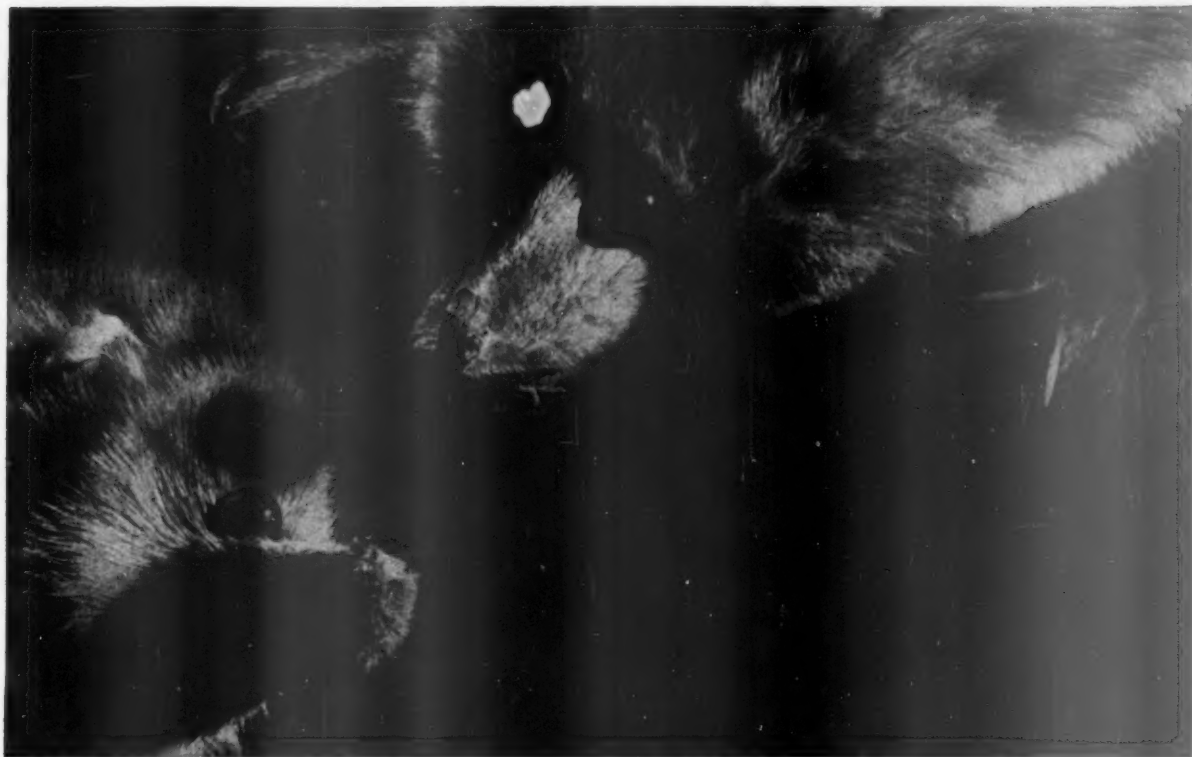
• **Hollow Ware**—Now, however, the
process is getting a big boost from an
unexpected source. Edward Winter, a
Cleveland artist, has introduced en-
ameled hollow ware using an aluminum
base and a colored porcelain enamel
coating. Certain portions of the
aluminum come through to give a silver
color in the decorative scheme of
bowls, decorative plates, and ash trays.
Winter previously pioneered the porce-
lain enamel artistic treatment of steel
and copper-base gift items.

The gift items are being introduced
by Winter in selected shops and depart-
ment stores. They will cost considerably
less than those using other base mate-
rials.

Secret of the new items is a low-
fusion-temperature enamel frit devel-
oped by E. I. du Pont de Nemours &
Co. After an opaque ground coat has
been applied, the new frit fuses to
aluminum at 1,000F. That's about 100
degrees less than the point where
aluminum distorts or melts.

Winter uses the facilities of Ferro
Corp. in Cleveland for oven firing.
Temperatures have to be rigidly con-
trolled during the process. Once prop-
erly applied, Winter claims, the enamel
will not flake or chip from the aluminum
from any cause including heat, acids,
or dropping and other rough treatment.

The new gift items are extremely at-
tractive, and are expected to spur the
use of enameled aluminum in building
foyers. Passenger elevators are another
good bet because the material is light-
weight, easy to clean, and attractive.
Aluminum Co. of America is trying out
some new decorative panels of this type
in its Pittsburgh headquarters.



FIERCE BEASTS THAT BECOME TAME BEAUTIES

Fight to the finish? No, just two finished skins. Each worth a small fortune. But before a scarf, stole, or full-length coat can make a lady a queen, the manufacturer has a problem to solve: How to get complete shipping protection for his expensive garments and reasonably priced, fast delivery. Here's how —



As furs are finished, manufacturer phones Railway Express, takes advantage of liberal valuation coverage. Furs are picked up, ride in sealed truck to assorting terminal.



Protected by numbered seal, "value hamper" carries shipment to destination city. Assorting is done in guarded area where furs change hands under signature.



Racing across the country on the best of America's trains. The precious cargo travels under the watchful eyes of Railway Expressmen, all the way to the retailer.



Delivered as scheduled. Retailer need never risk losing a sale, never risks overstocking. He specifies "Ship by Railway Express" and always meets the demand.



Shipping or ordering, ask your Railway Expressman to help you eliminate delivery worries and routing troubles. Get complete service and you'll save time, save money.

It pays to use the complete shipping service

No size or weight limit • Pickup and delivery, within prescribed vehicle limits, in all cities and principal towns • Liberal valuation allowance • Receipt at both ends • Ship collect, prepaid, paid-in-part, or C.O.D. • Ship by Air Express for extra speed.



FURNAS ELECTRIC MOTOR CONTROL

...ideal for residential
air conditioning...



• Lennox air conditioning engineers specify Furnas contactors because of their quiet operation, low in-rush and holding current characteristics, and suitable price and duty range.

Furnas Electric starters and contactors feature:

- Nine sizes 1 to 50 hp
- Dual voltage coils
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- Rugged Construction • Long Life

Save money with Furnas controls. For Magnetic Starter Bulletin 50A write Furnas Electric Company, 1121 McKee Street, Batavia, Illinois.

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Another Boost for Silicones

New plant will put Linde Air Products Co. up with the leaders. Experts predict an unsettling effect on the market.

The silicone industry is slated for another big expansion.

This fall, Linde Air Products Co., a subsidiary of Union Carbide & Carbon Corp., will begin construction on a big-capacity plant near Long Reach, W. Va. Linde hasn't announced the cost or the output of the new plant, but its certificate of necessity calls for a \$13-million project.

Linde's plans back up the rosy predictions that industry experts have been making about silicones for the last ten years (BW-Mar. 15 '52, p138). Using rule of thumb, marketing people said the industry's plant investments would come to \$30-million for this year. Right on schedule, Linde's plant will make the experts honest.

• **Reaching for the Top**—What's more, says Chemical Week, a McGraw-Hill publication, the new plant will put Linde right up next to Dow Corning Corp. and General Electric's Chemical Division as one of the top producers of silicones.

After Linde gets into production, the industry will probably level off for a few years and catch its breath for the

first time since 1944. It's been a busy 10 years for the silicone producers, and plant expansions have only been part of the story. The big job for the companies was consolidating their markets.

• **Versatile Chemical**—The reason for silicones' overnight growth is the chemical's versatility. Liquid, resin, and rubber forms have found applications in a raft of products, both simple and complex. Silicone-covered papers, made by Dow Corning, are cheap, efficient cleaners for eye glasses. Another type prevents foaming of liquids in chemical processes.

Linde's leap into the silicone big leagues wasn't a spur-of-the-moment decision, nor is the company a Johnny-come-lately in the field. The firm has been a leader in the research and development of the chemicals. Its late production start is simply part of its strategy.

• **In the Beginning**—Silicones were a radically different kind of chemical. They were expensive, and producers couldn't build a market by simply replacing established, cheaper products. Instead, Linde and its competitors had



A "Pullman" for Huge Machinery

A special railroad car has been developed by New York Central engineers to move large items such as the 250,000-lb. rotor (above), made by General Electric Co. for

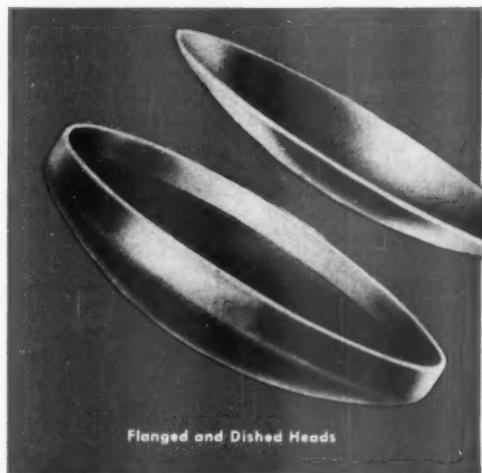
a U.S. Air Force wind tunnel at Moffet base, Calif. First leg of the trip carried the rotor on a special car from Schenectady, N. Y., to Jersey City, N. J.

heads---you win

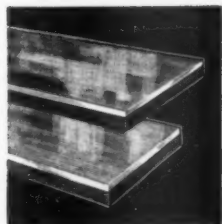


***when they're made by**

CLAYMONT



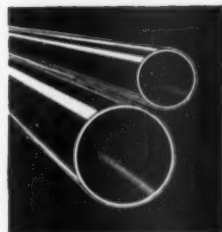
Flanged and Dished Heads



Stainless-Clad
Steel Plates



Alloy and Carbon
Steel Plates



Large Diameter
Welded Steel Pipe

Whatever your needs in flanged and dished heads, you're a winner every time when you call for heads by Claymont.

We can always meet your most exacting specifications because with us the spinning of flanged and dished heads is more than just a job—it's an art into which we put the most painstaking care and specialized know-how.

Our flanging department can supply you with flanged and dished heads in diameters from 9 inches to 19 feet and in gauges from 3/16-inch to 6 inches. Made in carbon steel, alloy steel or with stainless steel cladding. We are also prepared to handle head forming operations on both ferrous and non-ferrous metal circles supplied by the customer.

Other Claymont products include Stainless-Clad Steel Plates, Alloy and Carbon Steel Plates, Large Diameter Welded Steel Pipe.

Write or call Claymont Steel Products Department,
Wickwire Spencer Steel Division, Claymont, Delaware.

THE COLORADO FUEL AND IRON CORPORATION—Denver, Colorado

PACIFIC COAST DIVISION—Oakland, California

WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo • Chicago • Detroit
New Orleans • New York • Philadelphia

CANADIAN OFFICES: Toronto • Winnipeg • Edmonton • Vancouver

CLAYMONT STEEL PRODUCTS

PRODUCTS OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION



(Advertisement)

5-Plant Set-up

**started with 3-man factory—
expanded consistently to
meet new needs of industry**

Established in 1905 to supply insulating materials to the electrical industry, Irvington Varnish & Insulator Company has consistently expanded its production facilities to keep pace both with its own research-broadened line of products and with the greater and more complex needs of industry.

At Irvington's first plant, three men working at the job of dipping cambric cloth into linseed and China wood oils were able to supply a large share of the market for insulating tapes. Today, the company operates five plants in the United States and Canada, and is engaged in the manufacture of coated fabrics, insulating varnishes, extruded plastics, chemicals and laminated paper, foils and film.

The coated products which gave Irvington its start still account for a large share of the company's production. Fabrics woven from natural and synthetic materials, paper and non-woven materials are varnished and impregnated in vertical and high-temperature towers plus camelback, festoon, edgewise and other types of special equipment. Many of these coated products are used as electrical insulating materials, but they have also found their way into a wide range of other industrial uses.

Manufacture of these coated products is largely centered in the company's three plants in the Northern New Jersey Industrial area. For the convenience of customers, plants are also operated in California and Canada.

The detailed story of Irvington's manufacturing facilities, the products it makes and the industries it serves—together with an outline of the research background that led to the company's growth—is told in the folder, "This is Irvington." We'll be glad to send you a copy. Irvington Varnish & Insulator Company, 26 Argyle Terrace, Irvington 11, New Jersey.

to find applications that needed the peculiar properties of silicones. The few pounds that were sold during the first few years had to support a great deal of research, development, and sales service.

Now, the period of development is just about over. The industry has established a dozen or more markets for its silicones. And the base is large enough to support full-scale production and marketing operations.

During this build-up period, there was no strategic reason for Linde to invest heavily in plant equipment. Dow Corning and GE's Chemical Division, on the other hand, were originally organized to capitalize on silicone sales. Their production capacity kept ahead of forecasted sales. They wanted to keep their top spots in the industry.

• **Advantages**—But Linde has a couple of advantages its competitors didn't have when they started. Since 1907 the firm has been primarily a producer and distributor of industrial gases—with a national network of warehouses and salesmen. These marketing services will help make distribution of silicones easier after the new plant opens.

• **Raw Material Supply**—Then, too, Linde has a good source of silicon (the raw material): its fellow subsidiary, UC&C's Electro Metallurgical Co., which makes the metal. Dow Corning is only now completing a silicon furnace that will provide an independent supply. GE says that in the future it will probably consider producing its own silicon. Libby-Owens-Ford Glass Co.'s Plaskon Division, fourth ranking producer, has no expansion plans, will stick to pilot plant experiments.

• **Room for All**—Industry experts feel that Linde's big jump will have an unsettling effect on the silicone market, at least temporarily. The field will be pretty crowded until 1956, says one executive. But after that, enough markets will have grown to provide room for everyone.

PRODUCTION BRIEFS

A new coke oven battery has gone into operation at Bethlehem Steel Co., adding 1,300 tons to the company's daily output. The ovens were planned to feed two blast furnaces: a new one that was lit last March, and another that will go up soon. Bethlehem says the battery is the first the company has built since 1916.

A gas turbine engine, the type now used on railroad locomotives, will be used for the first time in the petro-chemical industry at a refinery of Esso Standard Oil Co. Hooked up to three big compressors, it will help handle hydro-

carbon gas in a processing operation. The engine's exhaust is engineered so that it can make low-cost steam for the refinery.

A streamlined blimp is under construction at Goodyear Tire & Rubber Co., designed for anti-submarine service with the Navy. Called ZP5K, the blimp is a replacement for the K type, used during the last war. It is faster, can refuel from surface craft and pick up water ballast in flight.

U.S.-owned inventions form the subject of a leaflet published by the Small Business Administration for industrialists who want to take advantage of the ideas. The guide is available at your local SBA field office. Ask for Inventions; Government-Owned; Government-Licensed; and Registered for License or Sale, No. 29.

A package plant, built by Blaw-Knox Co.'s chemical plants division, separates (or "splits") fatty acids and glycerin from raw-material fat. Designed for the small producer, the plant has a continuous output of 500 lb. per hour.

Training centers for mechanics—35 of them all together—are being set up throughout the U.S. by General Motors Corp. A center near Union, N.J., will kick off the program. It has eight shop-type classrooms, one for each of GM's divisions.



Titanium Propeller

This 110-in. propeller blade is the biggest die-forging ever made from a titanium alloy of Titanium Metals Corp. (BW—Aug.29'53,p41). Forged by Ladish Co., Cudahy, Wis., the blade will be used for a developmental project of the Air Force.

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when every factor must fit**

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Baltimore & Ohio Railroad

doing things



No question now about WHICH COMES FIRST!

No doubt about it! The chicken comes first today—bigger and better chickens. And it certainly follows that lively, healthy, well-fed birds will produce finer eggs, meatier offspring. Read the story of how this is being accomplished for poultry and other farm animals . . .

In making beverages, distillers actually process grain, preserving the unused and enriched proteins, fats, minerals and vitamins in concentrated product form. These are called "distillers' dried grains" and "distillers' dried solubles." When these highly nutritional concentrates are included in formula feeds, poultry and live stock produce more eggs and milk, beef and pork.

The production of these Distillers Feeds—*Produlac* and *Nadrisol Solubles*—represents only one phase of National Distillers' operations in this agricultural field. Another major development, through its U.S.I. Chemicals Division, has been the introduction of an essential amino acid—*Methionine*—which squeezes the last ounce of efficiency from balanced poultry rations, increasing growth and improving feathering. U.S.I. also supplies vitamin concentrates and antibiotics to the feed industry. Some of National Distillers' *metallic sodium* production is used in the preparation of compounds for veterinary use.

National Distillers' other varied activities—all paced by continuing product research—include the production of petro-chemicals, solvents, intermediate and finished chemicals, and a vast timberland conservation program. These are in addition to National Distillers long established business as one of the country's leading distillers of alcoholic beverages. The company sponsors, among others, the famous brands listed below. All are painstakingly created from the finest ingredients and carefully measured against highest quality standards.

Thus National Distillers Products Corporation pursues an increasingly diversified program to meet the needs of its industrial, agricultural and consumer markets.



NATIONAL DISTILLERS PRODUCTS CORPORATION NEW YORK 5, N. Y.

OLD GRAND-DAD • OLD TAYLOR • OLD CROW • PM • OLD SUNNY
BROOK • GILBEY'S GIN • HILL and HILL • BELLOWS PARTNERS
CHOICE • BOURBON DE LUXE • BOND & LILLARD • OLD HERMITAGE

Old Grand-Dad, Old Taylor, Old Crow, Kentucky Straight Bourbon Whiskies. Bottled in Bond, 100 Proof. PM Blended Whiskey, 65% Grain Neutral Spirits, 86 Proof. Gilbey's Distilled London Dry Gin, 100% Grain Neutral Spirits, 90 Proof. Bellows Partners Choice Whiskey—A Blend, 60% Grain Neutral Spirits, 86.8 Proof. Old Sunny Brook, Hill and Hill, Bourbon De Luxe, Bond & Lillard, Old Hermitage, Kentucky Whiskies.



NEW PRODUCTS

All-in-One Gauging

A big, complicated part such as an automotive crankshaft has many different points that must be checked to control its quality. To do the job in one crack, Sheffield Corp. has developed its Precisionaire Crankshaft Gauging Machine. The device quickly and accurately gauges 43 different dimensions of a shaft.

Sheffield says that a "comparatively unskilled" operator can work the Precisionaire. He uses a special mechanical device to lower the crankshaft into the operating position. Then he simply looks at a series of float-type charts located at the top of the unit that show the dimensions. The chart for each check point consists of a glass column with a measuring scale and an indicator. Lined up side by side, the indicators form a kind of panoramic chart during a gauging operation, tell the operator whether each dimension is within its tolerances.

When he's through, he uses the mechanical device to raise the crankshaft up again. That way, the operator doesn't tire from manually lifting the parts and the machine's gauging points are protected from accidental shocks and jars.

• Source: Sheffield Corp., Springfield & Thomas St., Dayton 1, Ohio.
• Price: \$24,000.

NEW PRODUCTS BRIEFS

Production of television picture tubes can be boosted by Autcon, a new process control. Wallson Associates, Ltd., Orange, N. J., the manufacturer, says Autcon cuts rejections, ups tube output by 20%. The control is engineered especially for small producers.

Post-harvesting growth of potatoes and onions can be retarded by a new discovery of U.S. Rubber Co.'s Naugatuck Chemical Division. MII-40 is sprayed on the crops before they're harvested at a cost of \$14 to \$19 per acre. Potatoes kept at 55°F won't sprout for a year after treatment.

Ring-like sight for shotguns allows a faster bead for a hunter. Snap-Site is easily attached to a gun barrel, is available in all shotgun gauges. The distributor is Bolinder Mfg. Co., South Salt Lake 15, Utah.

Fyr-Kote is a paint that releases carbon dioxide and calcium chloride when it's

IT'S WHEELING EXPANDED METAL

SOLID STEEL

...PIERCED

...AND STRETCHED



SOLID STEEL

that keeps out intruders — yet lets in heat, light, sound and air

Here's the answer to a maintenance engineer's dream: rugged, easy-to-erect enclosures stronger than solid steel its own weight, yet open-meshed to allow full visibility and ventilation. What's the "wonder metal" that makes all this possible? *Wheeling Expanded Metal!* And it's all the more practical because the partitions, in standard panel sizes, install with screwdrivers and pliers.

Need grilles, bins, or walkways in *your* plant? Look into versatile Wheeling ExM, the metal of 1,001 uses. Write for full details.



WHEELING CORRUGATING COMPANY

WHEELING, WEST VIRGINIA

Atlanta	Boston	Buffalo	Chicago	Columbus	Detroit
Houston	Kansas City	Louisville	Minneapolis	New Orleans	St. Louis
New York	Philadelphia	Richmond			

Photography helps assemble it in any language

Pictures help boss the job when this drilling rig is set up for action half way around the world . . .

Before shipping a drilling rig overseas, National Supply frequently first sets it up here for tests and paints the complex parts in *coded colors*. Then a color photograph is made.

Why? To serve as a graphic guide when the rig reaches its buyer. He has only to follow the photograph—matching color to color—and the rig virtually assembles itself. As a technique, this use of photography makes unskilled labor more efficient, slices through the problem of language barriers.

National Supply's experience is an example of how photography saves time, cuts cost, reduces error, improves output. There's room and reason for camera and film in any business—large or small—and that includes *yours*. Check the list and see.

Eastman Kodak Company, Rochester 4, N. Y.



. . . and here are 16 basic places where photography can work for you

. . . 5 minutes with this checklist can be the soundest business move you've made this year.

- | | | |
|---|--|--|
| <input type="checkbox"/> Management • Progress Photos • Stockholder reports • Record preservation • Control charts • Organization charts | <input type="checkbox"/> Personnel • Identification photos • Job descriptions • Orientation • Payroll records • Employee personal records • House organs • Health records • Bulletins | <input type="checkbox"/> Plant Engineering & Maintenance • Plant layout • Repair proposals • Piping & wiring installations • Progressive maintenance • Record debulking |
| <input type="checkbox"/> Administration • File debulking • Purchase schedule • Office layout • Interior decoration • Form printing | <input type="checkbox"/> Training and Safety • Safety campaigns • Teaching • Maintenance • Reports • Fire prevention | <input type="checkbox"/> Research • Reports • Flow studies • Process charts • Library • Photomicrography, electron-micrography, x-ray diffraction, etc. |
| <input type="checkbox"/> Public Relations • News releases • Institutional • Community relations • Public service | <input type="checkbox"/> Purchasing • Schedules • Duplicate engineering prints • Specifications • Source information | <input type="checkbox"/> Service • Manuals • Parts lists • Installation photos • Training helps • Records |



☐ **Product Design & Development** • Styling • Consumer testing • Motion studies

• Stress analysis • Performance studies

☐ **Engineering** • Drawings

• Specification sheets

• Drawing protection

• Pilot radiography

☐ **Warehousing & Distribution** • Inventory control

• Damage records • Waybill

duplicates • Flow layouts

• Packing & loading records

☐ **Production** • Time study

• Work methods • Legible

drawings • Schedules

• Process records

☐ **Testing & Quality Control**

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• Dealer promotion • Television

☐ **Sales** • Portfolios • Dealer

helps • Sales talks • Price

& delivery information



Send for free booklet.
"Photography U.S.A." illustrates
how photography is working
in industry today. Write
for a free copy.

Kodak

Berger-Tilles*

Projects standardize on Janitrol Unit Heaters



*Mr. Irving Berger (standing) and Mr. Gilbert Tilles, leaders in shopping center design and construction, check plans for new project.



Since 1946 Berger & Tilles have completed 12 shopping centers to serve Long Island residents. These projects total 220 stores ranging from supermarkets to gift shops . . . if fronted on one highway, they would comprise two continuous miles of stores.

When asked about his preference for Janitrol gas-fired equipment, Mr. Berger stated "Over a twelve year period renters and store operators have experienced trouble-free service, high heating efficiency and eliminated their maintenance problems."

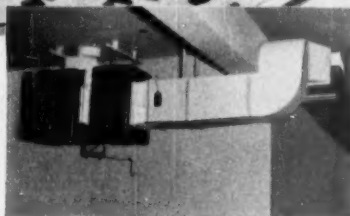
Whether you wish to heat a store, warehouse, or industrial plant of any size or type, Janitrol Unit Heaters using any type gas including LP can lower initial installation costs and assure you dependable performance. Write today for "Businessman's Blue Book for Better Heating" for information on unit heater performance and best installation methods.

Janitrol

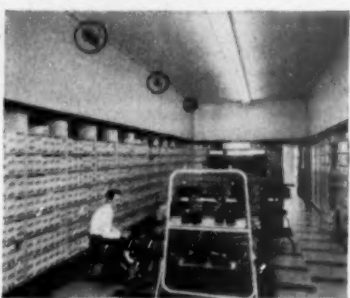
GAS-FIRED UNIT HEATERS

SURFACE COMBUSTION CORPORATION, TOLEDO, OHIO

Also makers of Surface Industrial Furnaces and Kathabar Humidity Conditioning



Blower type Janitrol unit designed for efficient heat distribution through duct system. Heating Eng. M. Prop. Htg. Cent. Metropolitan Sheet Metal Co., Elmhurst, L. I.



One of 25 stores in Cherrywood Shopping Center (shown in aerial photo) Wantagh, L. I. Warm air delivery registers are circled in photo above.

exposed to fire. Both chemicals help smother flames, and keep them from spreading. The paint is listed by the Underwriters Laboratories for industrial plants, hotels, and schools. The maker: Morris Paint & Varnish Co., 27th & Douglas St., St. Louis, Mo.

An X-ray unit of Picker X-Ray Corp., White Plains, N. Y., is said to be explosion proof, can be operated in areas where high concentrations of combustible gases are present. The machine automatically switches off if its seal develops a leak that allows gases to enter.

Electrical conductors are more easily pulled through a steel conduit, called Xduct, made by National Electric Products Corp., Gateway Center, Pittsburgh, Pa. Xduct's surfaces are covered with an aluminum enamel, which cuts down the friction of fishing a wire through. The conduit comes in 10 ft. lengths in diameters from 1/4 in. to 6 in.

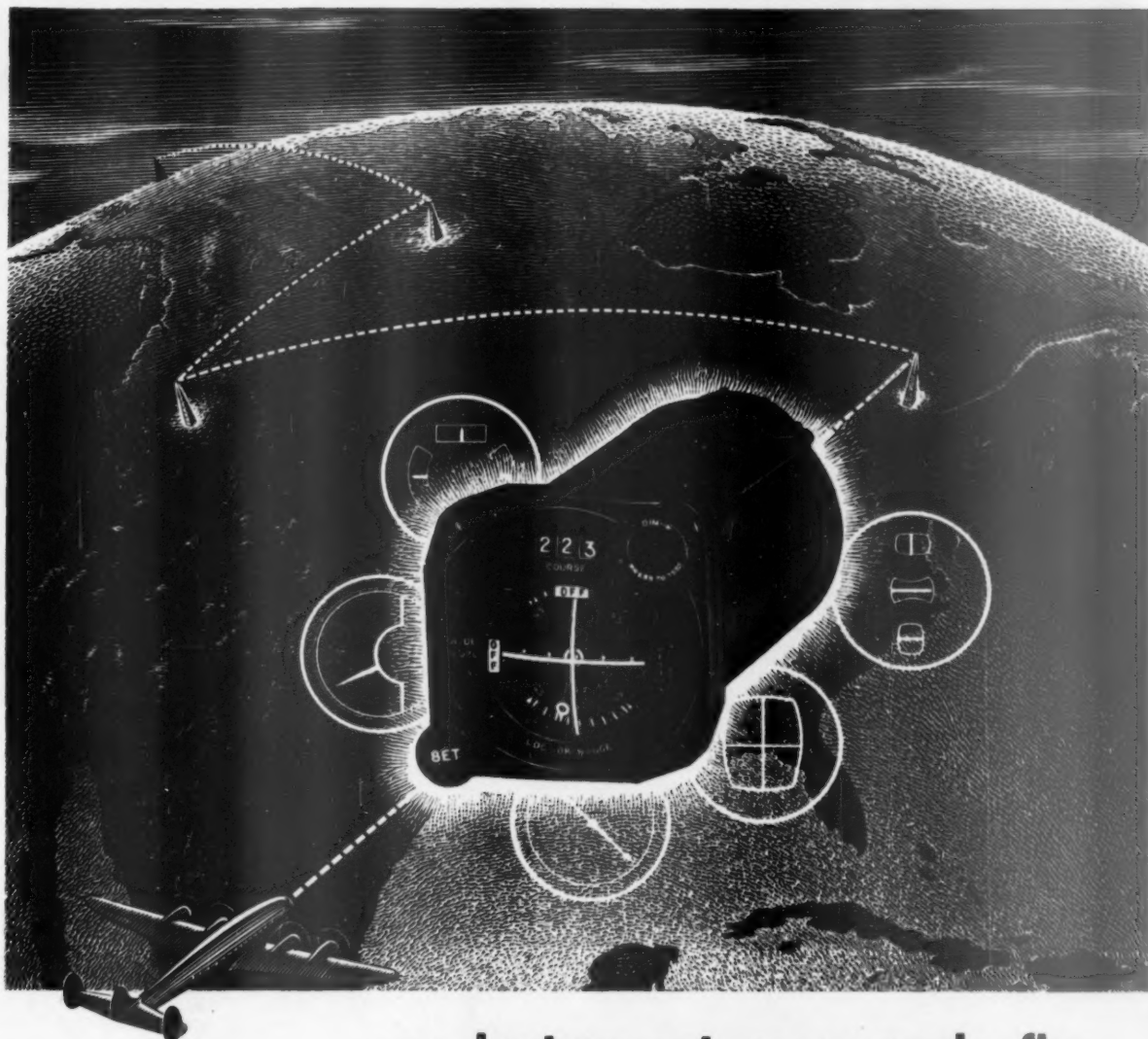
Book of gadgets, collected by du Pont's Petroleum Chemicals Division, shows cost cutting and safety ideas that are applicable in oil refineries, petrochemical plants, and drilling rigs. For detailed information, write to the chemicals division at Wilmington 98, Del., or any local office.

Emergency repairs on fishing equipment can be made with a new pocket-size tool made by Elmer Zeidman & Son, 216 Washington Sq. Bldg., Philadelphia 6, Pa. One end is a wrench, the other has a file, screwdriver, knife, and auger. The price is \$4.95.



Visual Pickup

WELDERS who wear bifocal glasses can sharpen their vision with the Ortho-Weld magnifying lens made by Bausch & Lomb Optical Co., Rochester, N. Y. The lens fits all standard welding helmets, gives comfortable close-up vision at any angle.



Flying Omni Range... one instrument now equals five

You'd almost think it incredible that the functions of as many as *five* basic navigation instruments could be combined in just one instrument... an instrument measuring only $3\frac{1}{8}$ " in diameter *at that*.

Such a reduction saves considerable space on the instrument panel, where space and weight savings are vital. But the outstanding advantage of this Weston Course Indicator is the fact that it reduces *reading locations* from five to one... thus making readings simpler and quicker, and greatly reducing pilot fatigue.

The indications which this one instrument supplies include: course indications, pictorial heading, deviation, ambiguity, and instrument landing. Its development, therefore, required designing into just one small

case, *five* highly sensitive instrument movements, *three* synchronous motors, a *course selector*, and a *marker beacon lamp*.

Such a development obviously called for engineering design skills, and painstaking craftsmanship, of the highest order. Not only to compress five into one, but to still build into this instrument the *accuracy*, and *unfailing dependability*, so essential to safe flying.

The Course Indicator furnishes another example of WESTON's leadership... not only in aviation, but on all measurement and control problems whether involving electricity, light, speeds, moisture, temperatures or pressures. WESTON Electrical Instrument Corp., 614 Frelinghuysen Avenue, Newark 5, N. J.



4605

WESTON *Instruments* ... INDICATE—RECORD—CONTROL

REGIONS

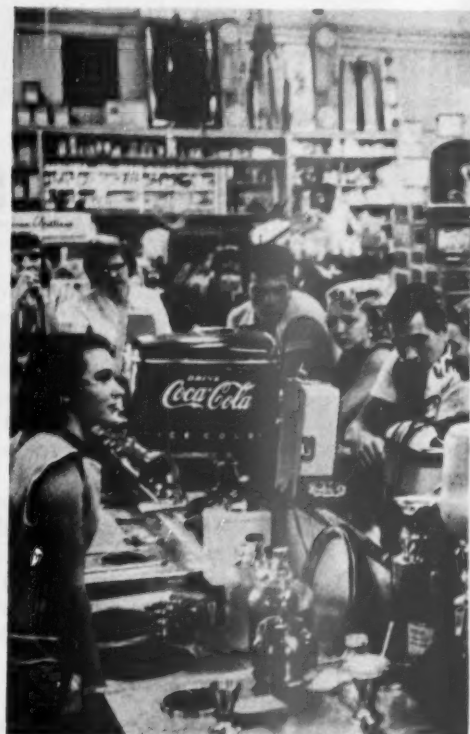


SCENERY brought Hollywood to Moab, Utah. Three times during the summer, motion picture crews came to town to shoot 3-D westerns. And Moab struck it rich.



BOOM began early in summer when Universal-International Pictures, Inc., arrived in Moab

Moab Gets



BUSINESS jumped all over town as the movies spent \$500,000 in Moab.



on location. They liked what they saw, came back a few weeks later.



EVERYBODY got into the act. The kids collected autographs; most of the young men got jobs as extras; the adults spent their time ringing up the cash registers.

Rich on 3-D Scenery

(Story continues on page 82)



SALES zoomed in clothing stores, food stores, even the local movie theater.



A HOUSING SHORTAGE developed, so the townspeople opened their homes to actors like Joe Sawyer, right, at five dollars a night.

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Show in the GREAT NEW ENGLAND MARKET

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Tests prove that oral job training
works. Sound helps people
learn faster, remember better.
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ON LOCATION, the dollar avalanche continued. Navajo Indians were paid \$12.50 a day to make like Apaches in "Son of Cochise," a 3-D horse opera.



LOCAL CAFE OWNER set up a chow line. Bill was \$1,000 a day—for six weeks.



MOAB ranchers rented out horses at \$2 a day each. Then the ranchers decided to join the

All the Moabites Are in

The sun-blistered cow town of Moab, Utah, struck it rich this summer. Drought threatened the crops, prices hurt the cattlemen, but still the town reaped a fat harvest of dollars. The reason: 3-D movies.

Three times during the summer, motion picture crews invaded Moab to film major westerns. They brought with them Hollywood money, and some of it got into the pockets of nearly every one of Moab's 1,553 residents.

Universal-International Pictures, Inc. came first, early in the summer, to town to shoot "Border River." U-I people liked what they saw; they came back a few weeks later with a 3-D western, "Son of Cochise." Word got back to Hollywood about the scenery around Moab, and 20th Century-Fox Film Corp. decided to follow Universal's lead; it scheduled September shooting of a Civil War picture.

• **Second Chance**—Hollywood first dis-



MAYOR'S DAUGHTER got a part in the picture, may even win a contract.



Teamsters' Union and collected \$1.94 an hour as wranglers.

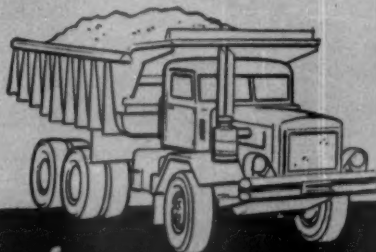
the Movies

(Story starts on page 80)

covered Moab three years ago. But the film companies didn't like the lack of places to sleep and eat. The town began to fade away as a location center. Then the local businessmen took over. They made sure they could handle a large crew and sold the idea to U-I. Now they're in the middle of a three-dimensional boom.

"Bringing movie crews to town is just like giving a bowl of cake frosting to the kids—everyone gets a finger in

Wherever load demands are extreme—from trucks hauling copper ore to rigs drilling for oil—Twin Disc Hydraulic Torque Converters are boosting production and reducing maintenance costs. On today's biggest trucks, Twin Disc Truck-Type Converters (Model CF illustrated) provide up-to-6:1 torque multiplication to speed work-cycles and increase tonnage. In the oilfields, Twin Disc Industrial-Type Torque Converters add deeper "reach" to drilling rigs, absorb shock loads, and torsional variations.



from
COPPER
to **CRUDE**



Throughout industry, Twin Disc power linkage is helping increase performance and profits, protecting driving and driven equipment through the smooth, positive action of Twin Disc Friction and Hydraulic Drives . . . built to meet the individual demands of a wide variety of industrial applications, from 1/4 to 1,000 hp.

Engineered to meet specific power transmission requirements, Twin Disc Drives are backed by unequalled service to keep machinery running profitably.

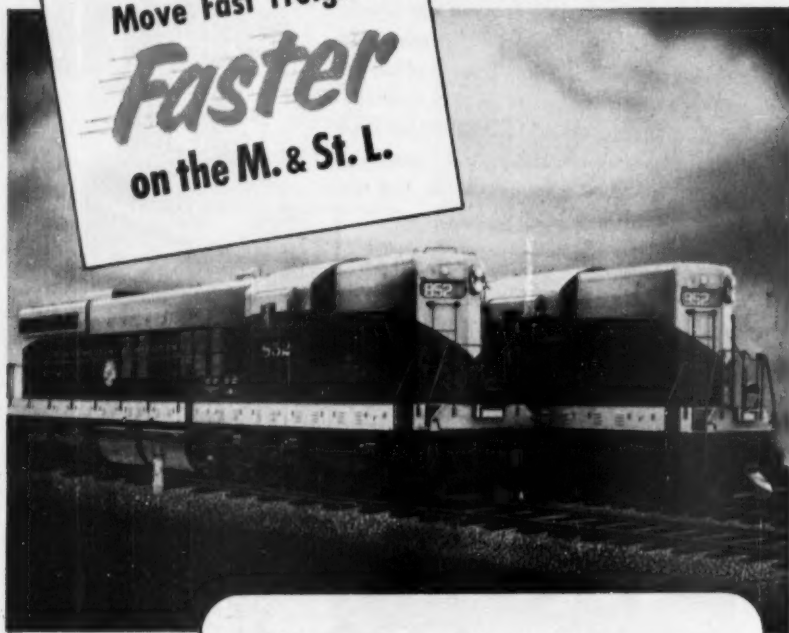


TWIN DISC

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Parkfield, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • MEMPHIS • NEW ORLEANS • SEATTLE • TORONTO

New Type Diesels
Move Fast Freight
Faster
on the M. & St. L.



Newest Job Specialists, that help make Fast Freight Service even faster on the M. & St. L., are two Diesel-electric locomotives, No. 852 and 952, just added to the motive power fleet of the Midwest's first 100 per cent Dieselized road,

THE MINNEAPOLIS & ST. LOUIS RAILWAY

Specialty of these ultra-modern Diesels is hauling heavy freight trains up steep grades, of which there are some on every railroad, even a Prairie Line like the M. & St. L. Each generates 1,500 horsepower, the same as most units of the M. & St. L. fleet of road locomotives.

But their greater pulling power, or "tractive force" as railroad men call it, is due to their ability to travel more slowly in "low gear" than other units of equal horsepower rating. Helping also to speed M. & St. L. freight is the fact that each new engine has two more traction motors, applying power to four more wheels—12 wheels in all instead of 8. That insures stronger "adhesion" to rails, as well as stronger direct pull.

Addition of the new locomotives increases the M. & St. L. fleet to 60 Diesels, which handle the road's freight traffic better, faster and far more economically than its 170 steam engines could a dozen years ago. Their purchase is the latest item in the M. & St. L. program for constant improvement of its

Fast Freight Service in the Midwest

The MINNEAPOLIS & ST. LOUIS Railway
TRAFFIC OFFICES IN 36 KEY CITIES



the sweet stuff," says Mayor George Burck.

Just about everyone has. Mayor Burck went on U-I's payroll as a contact man. His wife rented rooms to the visitors, and their 18-year-old daughter, Barbara, got into the movies. She was stand-in for Yvonne DeCarlo in "Border River," won a speaking part in "Son of Cochise."

• **Boom Town**—In town, sales zoomed. Tourists came in to see the movie people; laundry and cleaning firms did a land office business; even the local movie theater picked up trade: The actors wanted to see their old pictures.

Moab's mail increased by about one-third. The telephone company was swamped with Hollywood calls.

• **But No Gouging**—Prices, however, stayed just about where they were before the Hollywood invasion. The paper urged the citizens editorially not to try to "take" the visitors, and businessmen spread the word that prices weren't to skyrocket. They didn't.

The big problem was housing. U-I brought more than 100 people to Moab for "Son of Cochise." In addition, they imported 75 Navajo Indians from the Arizona reservation to play Apaches. The Indians camped on the County Fair Grounds and some of the Hollywood people put up at motels, but there just weren't enough units to go around. Townspeople opened their homes to the moviemakers at \$5 a night.

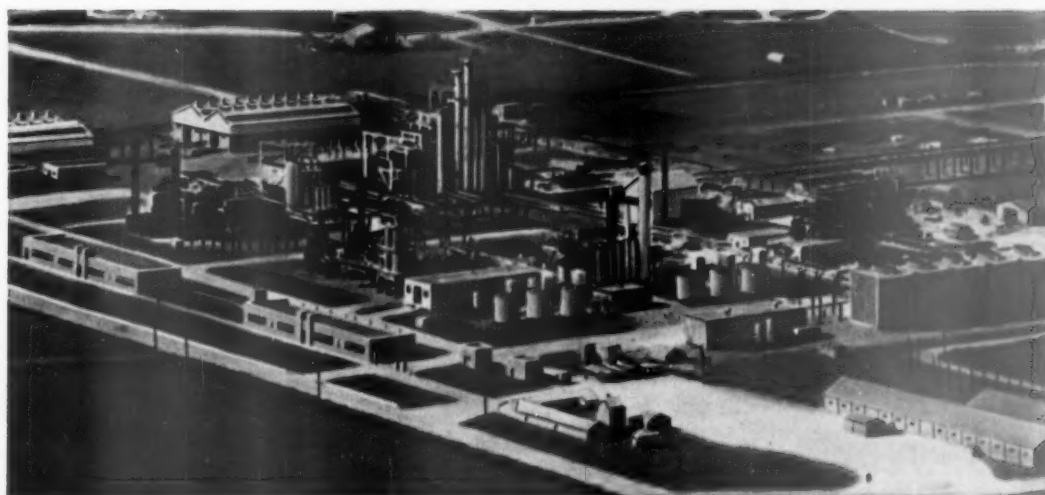
Engineers Approve Deepening of Hudson

In the old days, before the railroads were built, Albany, N. Y., was a major transportation hub. Its location at the juncture of the Erie Canal, from Buffalo, and the Hudson River, to New York and the wide world, made it a natural.

But even in recent years, Albany has retained a certain importance as a port. It's particularly important as a transfer point for grain (southbound) and oil (north- and westbound). Its big drawback has been that the channel of the Hudson near Albany is too shallow to accommodate present-day grain and oil carriers when they are fully loaded.

For eight years the city's port commissioners have been trying to get the channel deepened. Now two events have moved them two long steps toward that goal: (1) In July, the Civil Works Section of the U. S. Budget Bureau approved the project; and (2) last week the Army Engineers also approved it.

All that's needed now to get the \$30.7-million project under way is an authorization (and an initial appropriation) from Congress.



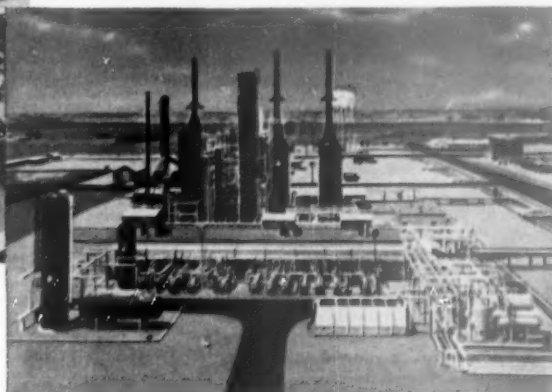
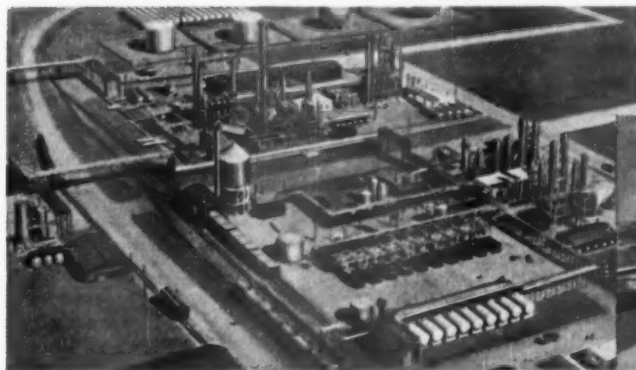
Development Studies *and* Reports

FOR THE NATURAL GAS, PETROLEUM, PETROCHEMICAL AND CHEMICAL INDUSTRIES

Stone & Webster Engineering Corporation, Badger Process Division, has designed and constructed many plants for the process industries to produce intermediate and finished products. Much of this work resulted from development studies and reports made by the Corporation, which included considera-

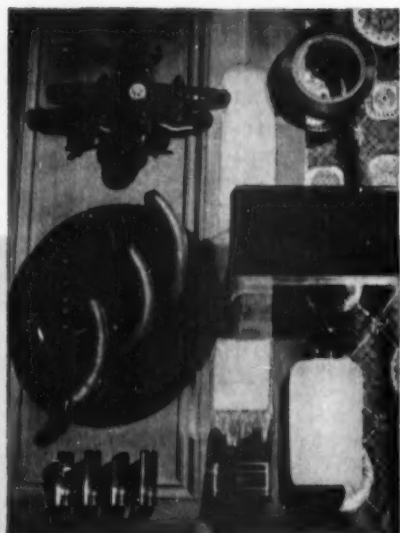
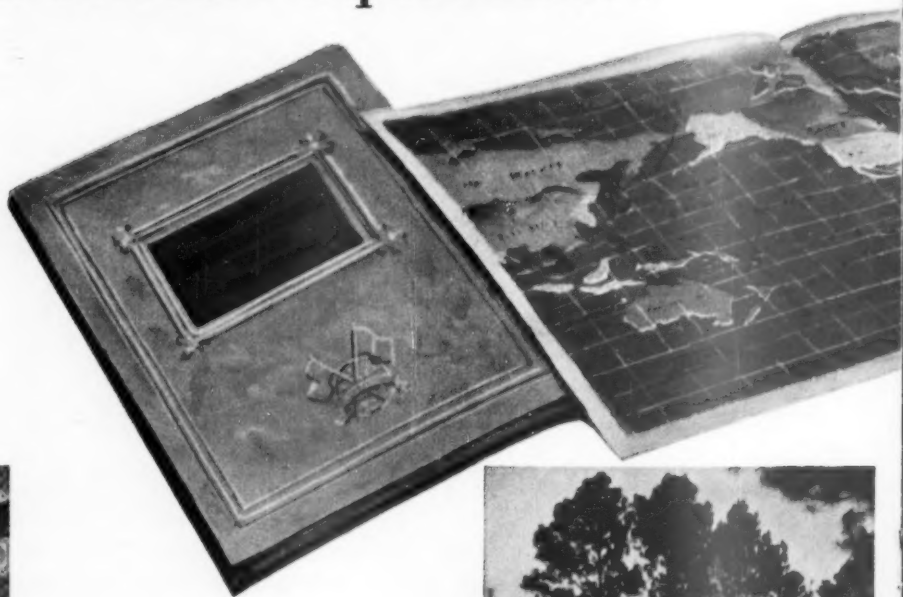
tion of markets, plant location, raw material supply, processing methods, handling facilities, utilities, transportation and other factors.

The broad experience of the Corporation in the preparation of development and economic studies and reports in these specialized fields is available for new projects.



STONE & WEBSTER ENGINEERING CORPORATION
BADGER PROCESS DIVISION
 AFFILIATED WITH E. B. BADGER & SONS LIMITED

Is this the time for an industry leader to increase export sales?



DOMESTIC OBLIGATIONS Most of the big cellulosic growth industries in the United States have increased production goals, based on the assurance that North America can supply their demands for high quality chemical cellulose.

Last year, Rayonier alone produced more than 800 million pounds of chemical cellulose in a wide variety of types especially adapted for a wide variety of specific end uses such as high-tenacity rayon cord for automobile tires, acetate and rayon textiles, cellophane, photographic films, plastics.

Rayonier's current and future production is scheduled to supply a large share of maximum domestic needs. No matter how many new, improved, cheaper-to-make-and-buy products come out of this country's cellulose development laboratories, Rayonier's domestic customers need have no fear of a shortage of this economical, adaptable chemical raw material.

WORLD-WIDE DEMAND FOR CHEMICAL CELLULOSE POSES QUESTION FOR RAYONIER

WORLD DEMAND Prior to World War II, Rayonier exported more chemical cellulose, in many years, than it delivered to domestic users. Today, there are still these old obligations abroad to be remembered.

Japan, formerly the world's largest user of chemical cellulose, is rapidly coming back into the market. India has built three plants, and plans the construction of others. Plants are building in Australia, Egypt, Brazil. In Latin America, the industrial use of cellulose is growing rapidly.

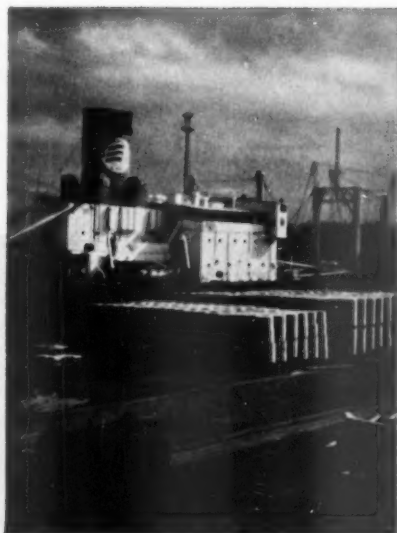
Yet, in spite of this growth, the overseas consumption of chemical cellulose is far lower than the United States' approximate 10 lbs. per capita—has a long way to go to catch up. Because every one-pound increase in the free world's per capita consumption equals this country's current chemical cellulose capacity, exciting and profitable prospects exist for Rayonier's more than 7,000 owners and 3,950 employees.



COMPETITIVE SITUATION The bulk of the increased world demand for chemical cellulose must be met from the North American continent because of the ready availability of the right kinds of wood, cheapest source of chemical cellulose. Hard woods from tropical rain forests and bagasse from sugar cane have so far proved uneconomic.

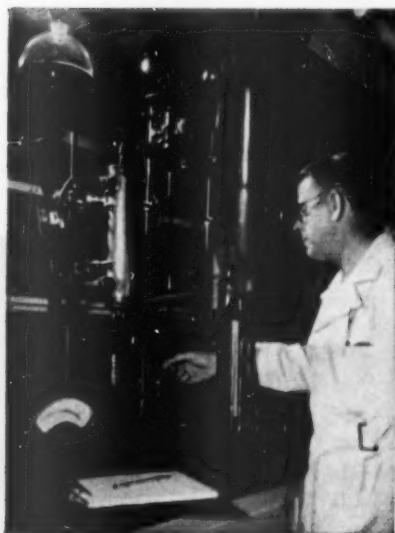
Users abroad buy Rayonier chemical cellulose because of its uniform quality and Rayonier's stable price policy, even though they are at times offered other cellulose cheaper.

Rayonier, with its nearly-limitless supply of the right woods, is the United States' largest exporter of chemical cellulose, accounting for about 70% of all shipments. As free world industry strengthens and more cellulose is needed, Rayonier can be expected to maintain its present position of leadership in the export field.



This can be done without any danger of short-changing domestic customers. For more efficient plant production plus new plant capacity will permit Rayonier output to parallel increasing needs for high-quality cellulose both here and abroad.

And Rayonier has stepped up its services to the export field. A European office is now open to expedite arrangements. A technical service staff is available. Requests for assistance in using Rayonier chemical cellulose will receive immediate attention. Cable Rayonier, New York.



Several exciting new products are already well beyond the experimental stage. When they have passed exacting tests and can be proved to perform their appointed jobs better and cheaper than existing materials, they will be offered to the domestic and foreign markets.

A whole new field of chemistry is being born. Chemicals from minerals, chemicals from coal, chemicals from petroleum, chemicals from gases—and now chemicals from wood. And Rayonier intends to lead in the new field of silvichemicals. For whatever the demands leadership entails, Rayonier is ready . . . ready, willing and able.

RAYONIER
INCORPORATED

cellulose chemistry

Executive and General Sales Offices:
161 East 42nd Street, New York 17, N. Y.



Bank of America, with 538 branches in 330 California communities, is the world's largest privately owned bank. Its shares are held by 220,000 stockholders residing in every one of the 48 states. Resources (as of June 30, 1953): \$8,017,573,360.54.

California has 72,000 acres of redwood parks and preserves, where the finest trees are protected for your enjoyment. Redwood lumbering is carried on under a long-range conservation program.

Building California... *Serving You!*

Lumber from California's redwood trees is highly prized for its unique beauty and resistance to decay. But selective harvesting of these forest giants requires specialized heavy-duty equipment—and consequently dollar investments of great size. Through its California-wide system of branches, Bank of America provides vitally needed credit for the equipment and machinery that makes selective harvesting possible—and helps to ensure future supplies of redwood lumber. In this way, Bank of America's vast resources are constantly at work building California...and serving you by helping to develop industrial customers for the manufactured products of the nation.

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NATIONAL TRUST AND SAVINGS ASSOCIATION

..... Bank of America is a member of the Federal Reserve System and Federal Deposit Insurance Corporation



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REGIONS BRIEFS

The Commerce Dept.'s annual state-by-state per capita income statistics, usually ignored by local newspapers, got big headlines in the Carolinas. Figures showed that North Carolina had dropped from 44th to 45th in the state rankings, and had been replaced in its former spot by South Carolina.

Toll-road notes: Ohio may be the first state to have two full-length turnpikes. With its east-west road now well under way, the Turnpike Commission has launched a survey of a proposed north-south highway from Cincinnati to Conneaut. . . . Bonds to finance Indiana's turnpike go on sale next month; completion of the \$150-million road is now scheduled for the fall of 1955. . . . The New Jersey Turnpike Authority is "ready to proceed" with a proposed 8½ mi., \$100-million link from the present toll road to the Holland Tunnel to New York. . . . Massachusetts' turnpike route has been set: It will run from West Stockbridge, on the New York line, to Route 128 outside of Boston. . . . Next major turnpike project in Pennsylvania will be a north-south link from east of Harrisburg on the present road to the New York line near Binghamton. . . . Iowa has just hired two firms of consulting engineers to check the cost and the potential of a cross-state toll road.

Northwest and Southwest will be connected by direct one-plane air service this month for the first time. United-Continental interchange service from Seattle, Tacoma, and Portland via Denver to Wichita and Tulsa starts Sept. 15; United-Braniff service via Boise, Salt Lake City, and Denver to Oklahoma City, Dallas-Fort Worth, and Houston starts Sept. 27.

Indianapolis hopes to eliminate all "blighted" slum areas (an estimated 20% of the city) within two years through a drastic new ordinance setting up minimum housing standards. Among other things, the ordinance prohibits occupancy of any quarters not deemed clean, sanitary, and fit for human dwelling by the city health officer and requires a minimum of 100 sq. ft. of space for the first occupant and 50 sq. ft. for every additional occupant of each dwelling unit.

Transit fare in Toledo has just gone up from 13¢ a ride to 15¢, the tenth fare increase for the city's Community Traction Co. since World War II. But in Dallas, the City Council rejected Dallas Railway & Terminal Co.'s bid for its seventh postwar boost.

*The Combination door
that outwits*



SUMMER HEAT



WINTER COLD



INSECTS

Another BORG-WARNER engineering achievement!

It's no longer enough for a combination door to keep out *only* cold and insects. For this remarkable Ingersoll 3-Way Combination Door—thanks to Borg-Warner engineering—*shuts out heat as well!*

You see, *only* the Ingersoll 3-Way has amazing KoolShade Sunscreen—a bronze wire miniature outside venetian blind that not only bars insects, but also blocks up to 90% of the sun's heat rays. Light comes in, but heat, glare and insects stay out.

For winter protection, the KoolShade inserts are replaced in *seconds* with snug-fitting, weather-tight panels of glass—thus providing *all-year* weather protection.

Aluminum—Full Inch Thick

All extruded aluminum, the Ingersoll 3-Way is a full one inch thick—extra strong, extra rigid, yet light in weight. Aluminum jamb fits over door frame to assure tight fit. Large upper insert provides full vision. Center mullion located to serve as convenient push-bar.

Developed by Borg-Warner's Ingersoll Products Division, the Ingersoll 3-Way is a striking example of how "*B-W engineering makes it work—B-W production makes it available.*" For full details, address Ingersoll Products Division, Borg-Warner Corporation, Dept. KS-22, 310 South Michigan Avenue, Chicago 4, Ill.

B-W ENGINEERING MAKES IT WORK

B-W PRODUCTION MAKES IT AVAILABLE

Almost every American benefits every day from the 185 products made by

Borg-Warner



THESE UNITS FORM BORG-WARNER, Executive Offices, Chicago: ATKINS SAW BORG & BECK • BORG-WARNER INTERNATIONAL • BORG-WARNER SERVICE PARTS • CALUMET STEEL CLEVELAND COMMUTATOR • DETROIT GEAR • FRANKLIN STEEL • INGERSOLL PRODUCTS INGERSOLL STEEL • LONG MANUFACTURING • LONG MANUFACTURING CO., LTD. • MARBON MARVEL-SCHIEBLER PRODUCTS • MECHANICS UNIVERSAL JOINT • MORSE CHAIN • MORSE CHAIN CO., LTD. • MORSE • MORSE HEAT • PESCO PRODUCTS • REFLECTAL • ROCKFORD CLUTCH • SPRING DIVISION WARNER AUTOMOTIVE PARTS • WARNER GEAR • WARNER GEAR CO., LTD. • WOOSTER DIVISION



MANAGEMENT

How Do You Evaluate Training?

● Most companies assume you can't really measure the worth of a supervisory training program.

● But Monsanto has replaced guesswork with qualitative answers—through attitude surveys.

● Results turned up in a series of surveys have pinpointed training strengths and weaknesses.

When Monsanto Chemical Co.'s Plastics Division (Springfield Mass.) decided in 1950 that its supervisory training program needed a major face-lifting, management at the outset insisted on two things:

- It wanted to pin down just what kind of training was necessary.
- It wanted to keep tabs on whether the training was doing any good.

That brought it up against a problem that is chronic in industry.

- **Hard to Measure**—Ask just about any top management man why he spent \$30,000 for a new machine, and he'll be able to tell you (1) how much more it will produce than the old; (2) how long it will take to pay for itself; (3) why it was worth spending \$30,000 for that machine; (4) why it was better to spend the \$30,000 today and not wait until next year.

But if you ask the same man what he's getting for \$30,000 worth of training for his management and supervisory people, he'll often answer in vague terms. He is just as likely to answer your question with: "I sometimes wonder about that myself."

What he is admitting is that measuring the worth of training is something a lot of industry people would like to do, but have rarely tackled. A survey by the Psychological Corp., New York, found that only about one out of 50 top-notch firms have any comprehensive testing on training results.

- **The Nub**—The problem is wrapped up in one word: evaluation. When you're dealing with people, not machines, that word often becomes a synonym for management intuition. That's especially true when you move from rank-and-file job training into supervisory training—trying to teach people how to manage other people.

Monsanto's experience with a three-year supervisory training program offers

a good case study of one attempt to solve this management problem.

I. Monsanto Moves

Two things established the need for a new approach to training of Monsanto management personnel. In 1950, the division found that there was little desire for the training that was available. So attitude was rated a major factor in any new training goal.

Secondly, it became clear to top management that, by the nature of the plastics industry, expansions would be almost automatic. Monsanto won't say exactly how much expansion is planned by 1968, but recent announcements plus guarded estimates indicate that it will be enough of a growth to raise worries about an adequate supply of trained people.

In 1951, the division set up an across-the-board supervisory training program that has cost it over \$30,000 a year. Something less than half of that has paid for consultation and services of the Psychological Corp.

- **Seeking Figures**—The program represents an attempt to substitute quantitative answers for qualitative judgments on training. Back of it is the statistical bent of Robert K. Mueller, general manager. Mueller is bothered by vagueness either about what ought to be done or what is being accomplished. This set the tone for the training program.

Today, Mueller has on his desk reports crammed with statistical data showing that part of the supervisory training is making progress, part of it has a long way to go, part of it probably needs needling or alteration.

- **Checking Attitudes**—These statistics are based on a series of attitude surveys of all levels of management from general executives down through assistant foremen.

Mostly, the questions attempt to dis-

cover (1) how the division's management people regard their job; (2) how they feel about cooperation between departments and with their superiors; (3) whether they are getting enough information on their jobs; and (4) whether they feel a part of management.

There's nothing new about attitude surveys. What is unusual is the continuous evaluation achieved by use of such surveys to give some sort of measure of training effectiveness. Significant attitude changes show up in percentage figures. Since the surveys are broken down by departments, functions, and various levels of management, it is more or less possible to nail down the weak spots.

II. Elation and Deflation

The first attitude survey was made at the start of the training program in 1951. After a year, management made another survey. Here are a couple of findings that made management feel progress was being made:

- On the question of whether opinions of supervisors were being sought, 15% of the supervisors in 1951 said they weren't asked about their ideas; in 1952 it was only 4%. (Technical supervisors showed the most improvement, foremen next.)

- On the question of whether supervisors hesitated to make decisions for fear of being overruled, improvement wasn't so marked, but was still statistically significant. In 1951, 7% said that was often the case; last year, it was 4%.

- **Rough Spots**—The two surveys also turned up weak spots. One aim of the training program is to bring foremen around to feeling a part of management. But compared to the initial, pre-training survey in 1951, the follow-up survey showed no change after a year in the foremen's identification with management.

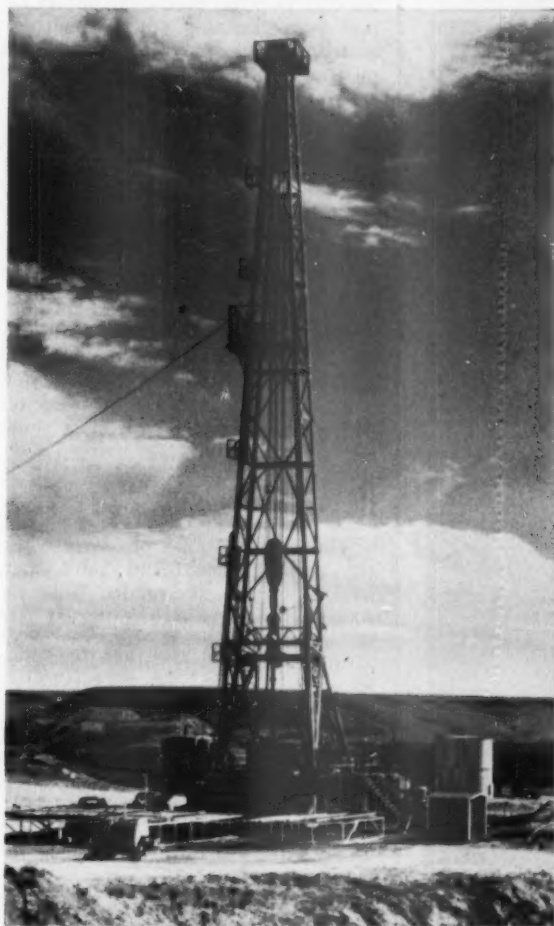
A corollary to this finding was that foremen were less satisfied with the information they were getting about management-union relations. In open-ended questions in the survey, foremen expressed strong demands for clearer policy statements on company-union affairs.

As a direct result of this kind of evidence, the plastics division this year tackled the foremen attitude problem in an unusual way. During two months

Oil in the Williston Basin

**New Major Field Goes into Production
Quickly with Great Northern Aid**

**PROGRESS IS A
GREAT NORTHERN HABIT**



NEW LANDMARKS on the North Dakota-Eastern Montana landscape are oil rigs. This is a rotary rig, capable of drilling to some 13,000 feet. Amerada Petroleum Corporation used a similar rig when it discovered the first oil in the Williston Basin.

GREAT NORTHERN shippers have come to expect fast dependable freight service in step with the times. So—no matter what you ship—livestock, foodstuffs, manufactured products or whatsoever—you'll get top freight service because "Progress is a Great Northern Habit."

Oil in the Williston Basin! An exciting prospect, but a tremendous transportation problem. How to supply this Western North Dakota-Eastern Montana area with equipment? How to speed the crude to distant refineries? *Great Northern had foreseen the problem and immediate, efficient service did the rest.* Today, shipments total more than 2000 cars per month. *More proof that "Progress is a Great Northern Habit."*



GREAT NORTHERN GEOLOGISTS examine a discarded drill bit. Trained technicians, plus others, are employed by Great Northern to observe developments in the field and to work with oil industry leaders.



A CONDENSER APPARATUS and flare at a finished well. Signal Oil Company is constructing a 17-million dollar plant in the Williston Basin to separate natural gasoline, liquid petroleum products and sulphur.



LOADED TANK CARS are moved to and from oil loading rack at Tioga, North Dakota, by Great Northern. 32 tank cars are loaded simultaneously, 16 on each side. Each car holds more than 10,000 gallons.



Your freight goes great when it goes

Great Northern Railway



Guarding vital finishes . . . of Wright jet housings with **PERMACEL** Paper Tape. No doubt there is an important use for **PERMACEL** on your jobs. Our Tape Engineering Service can give you the answer . . . without obligation.



PERMACEL

PRESSURE SENSITIVE

PAPER TAPES

PERMACEL TAPE CORPORATION, NEW BRUNSWICK, N. J.

of negotiations with the CIO electrical workers, more than half the division's foremen got a chance to sit in on the company-union sessions as observers. About 60 of them, plus higher-level supervision, watched the give and take.

That way, management figures, foremen who have to live with the contract ought to be able to understand why some of the knotty clauses have to be included.

• **Counseling Needed**—Earlier this year, a third of the follow-up surveys uncovered another training weakness. Management had made a big effort to improve personal counseling during the past year. Training officials figured a resurvey would show big improvements on answers to the question: How often are you told by your boss how well you are doing on the job?

Instead, the results came out this way:

	1953	1952	1915
Frequently	15	17	12
Now and then	39	42	38
Seldom	28	29	30
Never	18	12	20

The statistics did one other thing. They pinpointed the situation by departments: Four improved, four lost ground, one stayed even. So right now plans are being made by the weak departments to correct their poor showing.

III. Statistics Stumped

There are still areas, of course, where the training department can't show Mueller quantitative results. Take the company's interview training. It cost the division about \$4,400 to train six members of management in the art of interviewing, testing, and selecting personnel at the Psychological Corp.

In 1952, these men used their training in picking 340 technical candidates and 69 foremen candidates—the entire year's roster. The cost per man trained for interviewing was \$633—allocated across the 1952 hires it becomes \$65 per man hired.

Was it worthwhile? The training department says that by next spring it should have results of performance comparisons now being run between those selected after training in interviewing and those picked before the system was installed.

• **In the Dark**—Obviously, there remain a lot of other questions that the statistical evaluation approach fails to answer.

For instance, there is no way yet to determine whether it is really important that foremen should feel a part of management. That's just an assumption. But as statistical evidence is accumulated at the Monsanto division, it may help to answer the more subtle questions of this kind.

cold magic that heats



YORK GIVES YOU

BOTH cooling and heating

WHEN IT'S HOT!

WHEN IT'S CHILLY!

**RIGHT NOW IS THE TIME TO BUY A YORK
HEAT-PUMP ROOM AIR CONDITIONER**

WHY DELAY AND SETTLE FOR SUMMER COOLING ONLY?

Look what York gives you! . . .

Now, in addition to the wonderful, wonderful *cool*, York is an extra source of *heat*. Instant, personal control of temperature or ventilation! Morning, noon and night—you get clean, filtered, tempered air *when and where* you want it! No plumbing connections are required . . . nor does it use any fuel. Heating or cooling, it uses only air and electricity!

And you SAVE DOLLARS because when days or nights grow chilly, you can turn on the Heat Pump for quick, supplementary heat. No need to turn up your furnace just to heat a single room. Think of the fuel you'll save—and the money!

Your neighborhood York dealer will show you this

York Heat-Pump Room Air Conditioner right now. Remember, production is still limited—so let him show you what you'll gain by ordering today. Immediate installation—at terms that will please you as much as your York unit! Don't wait. See your nearby York dealer—*today!* York Corporation, York, Pennsylvania.



A TURN OF YOUR WRIST DOES IT ALL!

York's hermetically-sealed Heat-Pump Valve® brings the latest scientific development to the room air conditioner—makes it a fabulous HEAT-PUMP that heats the same room it cools without costly-to-operate electric grids or complicated devices!

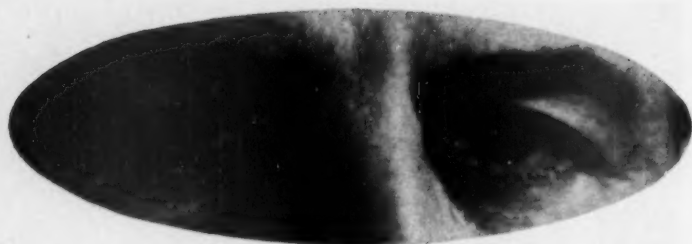
(PATENTS APPLIED FOR)

* Don't miss the dramatic demonstration at your York Dealer's—feeling is believing!

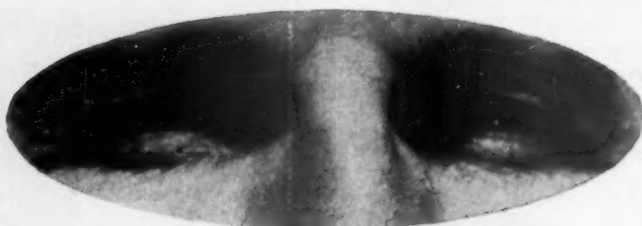
YORK

AIR CONDITIONING AND REFRIGERATION
HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

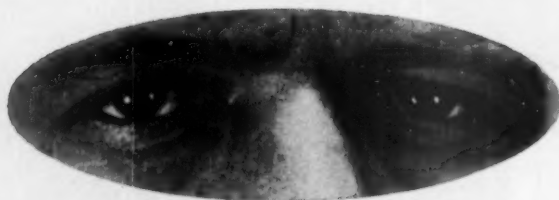




WHAT GOOD WOULD YOU EXPECT



STEEL MEN TO SEE



IN PLASTIC PIPE ?

● Is it reasonable for men who make steel to recognize that plastic pipe can do things steel cannot?

Certainly they're quick to see steel do many things plastics can't.

Republic Steel produces plastic pipe. But Republic also lists among its products titanium sheet, aluminum windows and powdered iron. Each has qualities that outdo steel on some jobs.

Republic Steel Corporation is not only iron ore mines and blast furnaces. It is men earning a living by providing other men materials for them to use in earning their livings. It is men providing pipe where pipe is needed — seamless steel pipe; welded steel pipe (three

types), and plastic pipe. Republic Steel's production of plastic pipe augments Republic's 3-STEP SERVICE FOR STEEL USERS:

1. to make more and better kinds of steel than any one else:
2. so that we can recommend the precisely exact steel for your job:
3. then to share with you our unexcelled knowledge of how to fabricate steel in order that you can get the best results for your product.

We see steel as the world's most versatile material — but certainly not the be-all and end-all for every job. This realistic attitude toward our main product is one reason why you can depend upon our recommendations.

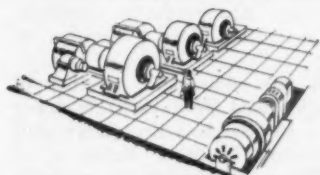
REPUBLIC STEEL



WORLD'S WIDEST RANGE
OF STEELS
AND STEEL PRODUCTS



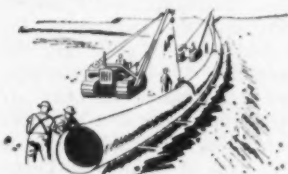
**Steels and steel products
for almost every need.
Here are a few of them.**



REPUBLIC SILICON STEELS—For 3.10 lamellar cores in motors, generators, controls and transformers. Uniform temper for accurate punchings; tight oxide scale to minimize flaking. A smooth surface from cold reduction, freedom from coil set, make laminations lie flat and stack tightly.



REPUBLIC ELECTRICAL RACEWAYS
ELECTRUNITE E.M.T., lightweight threadless steel, especially easy to install. **ELECTRUNITE "DEKORON-COATED" E.M.T.**, armored with tough plastic that resists most chemicals and fumes. **RIGID THREADED CONDUIT**—black or galvanized.



REPUBLIC LINE PIPE—Uniform diameter, roundness, wall thickness, ductility and high yield strength speed installations. Electric Resistance Weld Line Pipe, 2 3/8" to 16", and Electric Fusion Weld Line Pipe, from 24" to 30". More than 67,000 miles installed by oil and gas industries.

* * *

Republic Steel Today:

ore mines here and abroad; lake and ocean-going ships; coal mines; furnaces and huge steel mills. North and South; steel fabricating plants across the Nation and in Canada; sales offices in principal cities; PLUS 70,000 men and women working together to produce steels and steel products to help build and protect a stronger America. Republic Steel Corporation, General Offices, Cleveland 1, Ohio.



INTEROFFICE PHONE at John Hancock Mutual Life Insurance Co., Boston, doubles as dictating machine. All the user does is dial a number. He automatically . . .



. . . gets his call plugged into a free recording machine in a bank at central dictation headquarters, where stenographers type up his letter, ship it back. It's . . .

Dictating by Telephone

Machine dictation is going through a change that promises within a short time to make it as simple, quick, and efficient as dialing your phone.

What's happening is called telephone dictation. Dictating systems have been devised and are now in use that operate over internal telephone systems.

All you do is pick up the telephone, dial one or more digits, and start talking. Your dialing puts you through to central dictation, automatically selects one of a battery of dictating machines that isn't busy, and sets the machine to recording your letter.

By dialing various digits you get a

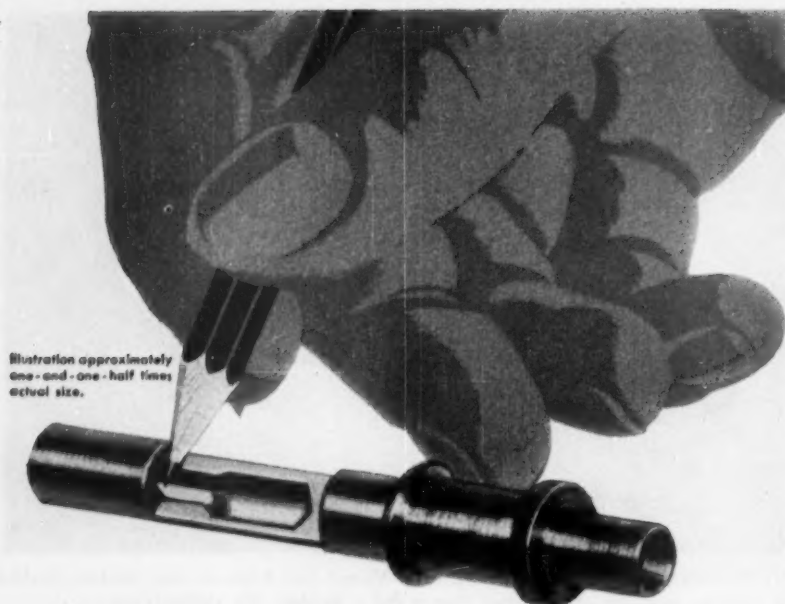


Illustration approximately one-and-one-half times actual size.

how would you drill this square hole?

(along with 14 other operations—all in $6\frac{1}{2}$ seconds)

It puzzles many experienced shop men, especially since it's done automatically at the rate of 554 completed pieces per hour.

To be sure, this so-called "drilling a square hole"* is a freak operation—one that would not be called for more than once among thousands of jobs regularly produced on

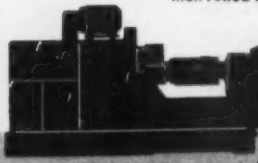
ACME-GRIDLEY Multiple Spindle Bar Automatics

But this particular steel rotor shaft, produced in large lots, clearly demonstrates 2 important Acme-Gridley features: (1) the singular adaptability of *standard* machines designed to use a maximum number of tools; (2) the ingenuity of tool engineers to meet many exceptional problems.

Such savings in machine investment, in output and in man hours are important to your time-study, cost accounting and finally, to your profit reports.

For your new or old bar machine jobs ($\frac{1}{8}$ to $7\frac{3}{4}$ " diameter), it costs you nothing to compare methods and costs.

* The square hole was first drilled round slightly oversize, then rolled to shape against an inserted square mandrel.



**The NATIONAL
ACME COMPANY**

170 EAST 131st STREET • CLEVELAND 8, OHIO

**ACME-GRIDLEY
BAR AND CHUCKING AUTOMATICS**
(1, 4, 6, and 8 Spindles)—Hydraulic Thread
Rolling Machines—Automatic Threading
Dies and Taps—Limit Motor Starter and
Control Station Switches—Solenoids
—Contract Manufacturing

**"... fifty or so machines
will be able to handle all of
these 700 ..."**

DICTIONATION starts on p. 95

partial or full playback, signal the end of the letter, or make corrections.

• **Central**—Stenographers in a central pool then pick up the recording, type it for you, and route the finished letter back to your desk ready for signature.

Such a system does a number of things:

• It cuts down the number of fairly high-priced (\$300 each) machines necessary to provide a large office staff with dictating facilities. Ratios of 12 persons, or even more, to one recorder in the central stenographic room are practical, without delays or what the industry calls "collision."

• It speeds the processing of dictation. Instead of accumulating enough letters to fill a recording before starting to dictate, or waiting until a recording disc is largely used up before sending it out for transcription, a dictator can handle each letter as it comes along, get it processed at once.

• It leaves the mechanics of handling the recording device to central dictation. There's nothing on the dictator's desk except his interoffice phone.

• It eliminates transportation of recordings to central stenographic pools by office messengers.

• **Latest**—One of the latest and largest installations of an automatic telephone dictating system is at John Hancock Mutual Life Insurance Co.'s Boston headquarters building (pictures). Today, after about a year's pilot run, 100 of the company's 300 employees who use central stenographic facilities are hooked up through the P-A-X (Automatic Electric Co.'s internal telephone system) to a bank of about nine Dictaphone Corp. Time-Master recording machines.

More stations for dictating are being added every day. Most of those who use the system now are in the lower management levels—section heads or assistant section heads. They have the burden of Hancock's dictation.

But with the success of the Dictaphone Telecord system the company eventually expects as many as 700 persons will be linked up to it. Fifty or so machines will be able to handle these 700—a major saving in dictating equipment cost.

Besides that, it will be economical to provide dialing facilities for persons who only occasionally need to dictate. The additional equipment on an already-installed P-A-X telephone handset costs only \$17.

Hancock sites another advantage

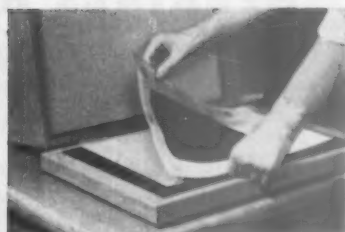
LOOK! We do top quality printing right in our own office with this amazing "3M" Brand Offset Plate!



Like many another cost-conscious company, we duplicate inventories, bulletins, letters... any simple paper work... on an offset duplicating machine. But, thanks to the 3M Photo-Offset Plate, we don't stop there! This remarkable aluminum plate actually *expands* the scope of our printing department... lets us print a lot of our own promotional literature, manuals and catalogs.

And there's *never* a botched-up job! The 3M Plate is easy to expose and develop. It's so dependable to use, that *any* job is reproduced with highest professional quality.

Have the 3M Plate tested on your company's Davidson or Multilith duplicating machine. You'll be pleased with the results.



EASY PROCESSING—The 3M Plate is pre-sensitized for immediate exposure, quick development. Requires no special processing equipment (no darkroom, whirler or graining machine). Exposure time is unaffected by hot weather or high humidity.



DEPENDABLE PERFORMANCE—Constructed of durable, easily-handled aluminum, the 3M Plate will not stretch. Permits quick, clean additions or deletions even after being mounted on the press. Is safe to store. Turns out re-runs that closely match original jobs.



PERFECT REPRODUCTION—Grainless aluminum makes the difference! The 3M Plate prints richer colors, deeper blacks. Reproduces illustrations in finest detail. Uses less water, less ink. Won't oxidize. Turns out jobs of uniformly high quality.

Available for all these
offset duplicating machines

MULTILITH—models 1250, 1300, 2066, 2066LD.

DAVIDSON—models 221, 251, 233.

(Also made for larger lithographic presses)



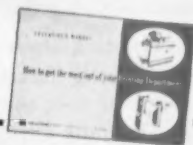
PHOTO-OFFSET PLATES

Pre-sensitized

All-aluminum

Made by the makers of "Scotch" Brand Cellophane Tape

Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn.—also makers of "Spherkote" Brand Tympan Covers and Frisket Papers, "Scotchlite" Reflective Sheeting, "Scotch" Brand Pressure-Sensitive Tapes, "Scotch" Sound Recording Tape, "Underal" Rubberized Coating, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ont., Can.



FREE BOOKLET! New executive handbook shows how to get the most from your printing department. Is an actual sample of professional quality work done by the 3M Plate!

Minnesota Mining & Mfg. Co., Dept. BW-93
Printing Products Division, St. Paul 6, Minn.

- ☐ Send me free booklet plus full information on the 3M Plate.
- ☐ Include name and address of my nearest 3M Plate Dealer.
- ☐ Arrange for a personal demonstration.

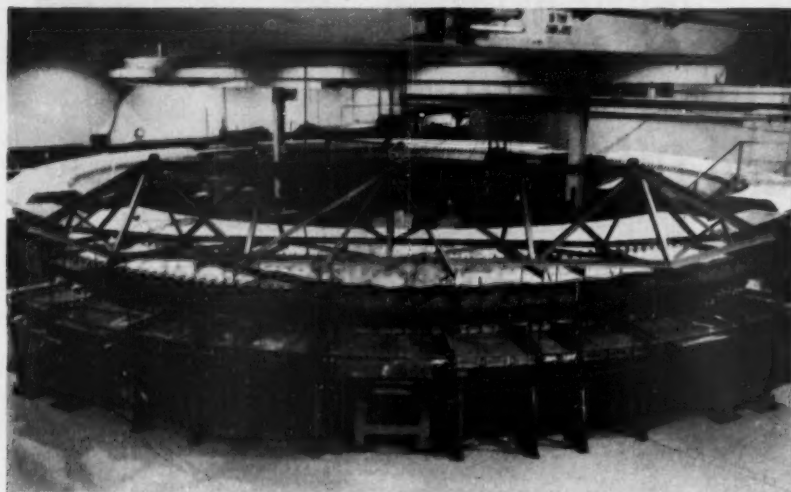
NAME.....TITLE.....

COMPANY.....

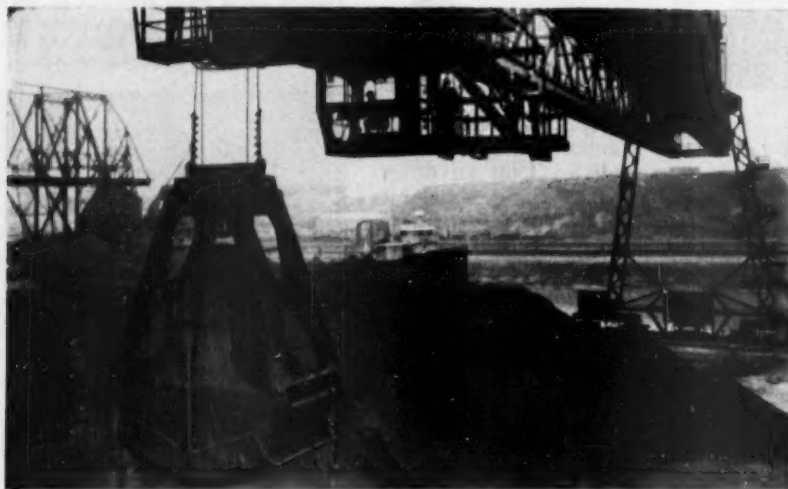
ADDRESS.....

CITY.....ZONE...STATE.....

MATERIALS HANDLING BRIEFS



"Handling" protons . . . this cosmotron accelerates them to 2 billion electron volts. At such energy levels, the Brookhaven National Laboratory expects to find new horizons in nuclear research. The vacuum chamber, one quadrant of which is shown in foreground, was built by Wellman. This is a precision fabrication job in stainless steel.



From buckets to bridges . . . that's the scope of Wellman service to the steel and shipping industries. This Wellman "Williams" Type Bucket takes 17-ton bites of ore, smoothly operating on roller bearing sheaves. The Wellman Traveling Bridge has a total length of 577 feet.

• Take advantage of Wellman's half century of experience to help speed your materials handling and cut your costs. The Wellman Engineering Company, 7000 Central Ave., Cleveland 4, Ohio, U.S.A.

Wellman will build it!



HEAVY MATERIALS HANDLING EQUIPMENT
SPECIAL STEEL MILL MACHINERY
"WILLIAMS" CLAMHELL BUCKETS
MECHANICAL GAS PRODUCERS
"ANKER-HOLTH" AIR AND HYDRAULIC CYLINDERS

" . . . so far AT&T isn't ready to say one way or another . . ."

DICTATION starts on p. 95

of dialing: Dictated letters are back ready for signature within a couple of hours. Under the individual dictating machine system, the time lag was a day or often more.

• **Growing**—Telephone dictation is only about 2½ years old. The Ediphone Division of Thomas A. Edison, Inc., claims to be the first in the industry to introduce a model (BW-Dec.30'50, p46).

For a while, Ediphone carried the burden of selling the whole idea of phone dictation.

Now just about every manufacturer in the field either is marketing telephone dictating devices or is about ready to. There is a variety of devices already in use.

Ediphone says its biggest seller by far is the manual selection arrangement that links a dictating station to three, four, or five Televoicewriters, allows a person to pick out any one of the machines that isn't in use.

Others hook up, say, five telephone-type dictating stations to one recording machine.

Ediphone also sells installations that combine their own wiring system with an internal telephone circuit handset on the user's desk. This permits him to use the handset either for dictation or for internal calls.

Dictaphone's Telecord system at John Hancock uses no separate wires. It uses the already-installed wiring and dialing equipment of the P-A-X system. Hancock says that was a big selling point, since it didn't want another separate wiring system apart from its internal phone circuit.

• **Wider**—An even wider use for telephone dictation will open up as soon as the American Telephone & Telegraph Co. permits tie-ins with its PBX boards—the AT&T interoffice telephone system.

Right now four tests are being run by AT&T to determine whether central dictation over existent PBX systems is feasible.

One important question is this: Since PBX boards handle both outside as well as internal calls over the same phone, how will the addition of a dictating load affect ordinary telephone communication?

So far AT&T isn't ready to say one way or another—it wants to be certain about cost, operation, and the kind of regulations that are necessary. But there have been reports of success in some of the tests.

MULTI-STOP LEADER FOR 15 STRAIGHT YEARS



The performance of International Trucks with Metro® bodies is unmatched. They're designed for multi-stop service. Owners' cost records have made them multi-stop sales leader for 15 years.

You get more payload space on shorter, more maneuverable chassis. *You save time* in traffic and on delivery routes. *You save space* at loading dock and in the garage. You have a choice of 4 body lengths.

You profit from features that *save driver time and energy*. Full 6-foot headroom and low stepwell speed loading and unloading. Broadleaf springs and new shock absorbers provide maximum driver comfort.

Compare all-truck construction that gives you unmatched chassis stamina, engine power, and operating economy. *Compare* the long life and low maintenance cost of the all-steel Metro body. It's the multi-stop body that outlasts them all.

See your International Dealer or Branch today

NEW INTERNATIONALS WITH NEW METRO BODIES

**Compare them with any other
multi-stop truck on the market!**

More Payload Space. Eight body sizes, two body styles—standard or flatback. Four body lengths—7¾, 9½, 10½, and 12-foot; each has increased capacity. New capacities range from 243 to 392 cubic feet.

New Driver Convenience. New full 6-foot headroom. Low stepwells. Sliding front doors standard, folding doors optional. Six rear door options.

New Driver Comfort. New broadleaf springs. New shock absorbers. Lower center of gravity. New toe-board angle.

New Savings. New downdraft carburetion for greater fuel economy. New cushioned disc clutch for longer life, smoother operation.

Six chassis models, 102, 115, 122, and 134-inch wheelbases. GVW ratings, 5,400 to 10,000 lbs.

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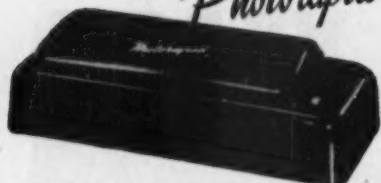
International Harvester Builds McCormick Farm Equipment and Farmall Tractors... Motor Trucks... Industrial Power... Refrigerators and Freezers

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INTERNATIONAL TRUCKS

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SIMPLE—This newest development in photocopy machines can be operated easily by any girl in your office.

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Universal Precisioneered Balls win in any ball-race! Engineers underscore their universal acceptance. In chrome and stainless steel. Other Universal Balls in bronze, aluminum and other materials. All 100% inspected, all individually gauged.

**Universal
Ball co.**

WILLOW GROVE
MONTGOMERY CO., PA.

Making Decisions by Math

U. S. Steel starts a study on using electronic equipment to process figures for management . . . an expert to talk on employees' motives . . . more businessmen in D. C.

Management by high-powered mathematics and electronics may be nearer than many businessmen think.

Here's a rundown on some happenings of the past few weeks that point up a fast-moving trend in this direction (BW—May 30 '53, p96):

- Wayne University held a meeting on electronic computation, with the emphasis on its use in industry. MIT currently has a conference in session on the same subject.

- At Wayne, Dr. E. P. Little, technical director of the university's computation laboratory, outlined a United States Steel Corp. project to develop an "integrated data processing system through common language machines." That means the use of electronic equipment to handle all management data—from the first typewritten order—with no alterations needed to make it fit several different mechanical or manual handling devices. At the same time, it would permit the use of many powerful mathematical aids in managerial decision-making.

- In New York last week, representatives of Eastern universities and corporations met to lay plans for an Institute of Management Sciences. A similar meeting had been held earlier on the West Coast. The idea of the organization is to bring campus researchers and businessmen together to develop mathematical and electronic management control methods. A major project of the institute will be a journal to publish reports of research work in the field.

- At Remington-Rand Corp. last week, more than 100 industry people met with Melvin Salvesson, head of the Industrial Logistics Research Projects at the University of California, which is sponsored by the Office of Naval Research. Salvesson discussed the gains made, largely through armed-services-sponsored projects, in the use of mathematics (tied to electronic data processing equipment) in the field of management. One point he made:

"Electronic data processing and high-level math in management is much closer than we think."

He outlined one such system for decision-making, using currently available electronic equipment.

In his work with the ONR project, Salvesson said, he came across many problems that top management in big corporations would like solved, and which, he says, should lend themselves

to the electronic-mathematical approach. Among them:

How does a board of directors decide how many of each model to produce, taking into consideration plant capacity, sale forecasts, labor and material supply and costs—and be certain they have maximized their profits?

How can a company eliminate the need for 170 expeditors whose job it is to make certain orders come off the line as production planning had anticipated?

How do you develop a proper schedule for plant production? Right now, one company has 100 people involved in that job, handling a variety of production items. That isn't very practical—because of the need for constant feedback of communications, 100 people can't do the job efficiently. So, production scheduling becomes a matter of negotiation, renegotiation, compromise, and delay.

AMA on Motivation

Rensis Likert, director of the Institute for Social Research at the University of Michigan, will be one of the featured speakers at the American Management Association's Personnel Conference, Sept. 28-30 at the Hotel Statler in New York.

He'll share the platform with Robert E. Schwab, personnel planning supervisor of the Detroit Edison Co., which has made use of Likert's work at the research center.

Likert, assisted by some of the Institute's researchers, will describe the results that industrial concerns have had in the area covered by his subject: "Motivating Employees to Do a Fair Day's Work."

More Business in D.C.

The Eisenhower Administration is calling in more business people to help run the government. Last week:

- The Senate Post Office Committee announced it had let a contract to the National Industrial Conference Board, a business research organization, to make a survey of postal operations. It will try to determine the role of the Post Office in modern industry, how business utilizes its services.

- Attorney General Brownell announced the appointment of a national committee to study the antitrust laws.



The Paint with an Eye to Your Future

Right now you're planning a maintenance painting job. Plan it with an eye to the future as well as to the present.

Let us say . . . and we can prove it with an on-the-wall test . . . that Barreled Sunlight will do the job better and for less money. Less money for paint . . . because Barreled Sunlight takes more thinner and covers more area per gallon. Yes, and less money for labor — the really costly part of every painting job — because Barreled Sunlight goes on faster and easier and covers better in fewer coats.

But of equal if not greater importance, paint now with Barreled Sunlight and you'll save money in the years to come. You'll repaint less often, because a Barreled Sunlight job keeps its clean, fresh-painted look years longer. And when you do repaint Barreled Sunlight over Barreled Sunlight, one coat is all that's necessary for a perfect repaint job.

Think of your future, right now. Use Barreled Sunlight right now. Your nearest Barreled Sunlight representative will be glad to show you how right you can be. Write, and he'll call.

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Barreled Sunlight *Paints*

In whitest white or clean, clear, wanted colors,
there's a Barreled Sunlight Paint for every job

IT ALWAYS COSTS MORE NOT TO PAINT

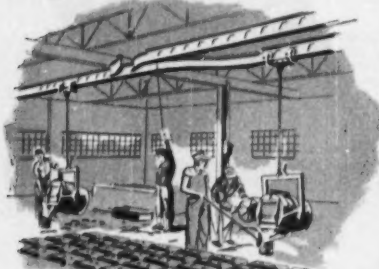
For over half a century those who know the best in paints . . . for all types of buildings . . . have strongly insisted on famous Barreled Sunlight



Progress at Whiting

A Bi-Monthly Series by Stevens H. Hammond, Chairman of the Board

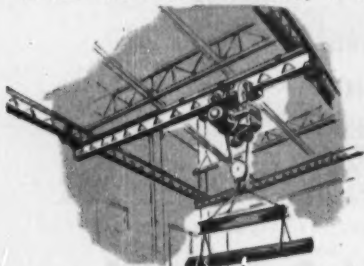
Expanding our operations five years ago to include a California plant helped us achieve two major objectives. We wanted to widen our line of handling equipment, which we did by the purchase of certain assets of Spencer-Morris Co. and its Trambeam Overhead Handling Systems. The same move gave us manufacturing facilities closer to Whiting customers in this expanding industrial area.



Whiting Trambeam Monorail Systems for point-to-point transportation.

We soon needed more space; hence the move to our new plant in Norwalk, a Los Angeles suburb. Production has gained steadily here, and in our 1953 fiscal year this plant accounted for 12.3 per cent of all Whiting shipments.

Trambeam is virtually all-industry equipment providing crane or monorail handling, or a combination of both. When we refer to Trambeam cranes, we are



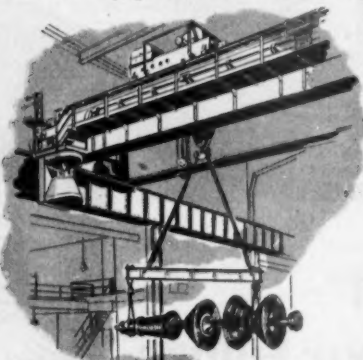
Whiting Trambeam Crane Systems for complete area coverage.

often asked if we aren't competing with our regular line of overhead cranes. Let me explain why this is not the case. One difference is capacity. Trambeam systems can be engineered for capacities up to 15 tons; the majority range from one to five tons. Whiting overhead or "top-running" cranes are usually designed to handle much heavier loads . . . 250 tons is not exceptional.

Trambeam signifies an "underslung" crane or monorail system. Both trolley and bridge wheels operate on the lower flange of the supporting beam, in contrast to Whiting overhead cranes where trolley and bridge movement is on top of the runway.

Trambeam systems, whether crane or monorail, are made up of standard parts, but every installation is "tailored to the job" to meet each user's specific needs.

Other Whiting equipment being made at Norwalk includes Overhead Cranes and Bag-type Dust Suppressors for foundries. We are particularly proud of the part this latter equipment has had in helping to eliminate Los Angeles "smog". The Whiting Dust Suppressor was the first such equipment in this area to help



Whiting Overhead Traveling Cranes for loads up to 450 tons.

foundries successfully combat air pollution. As installed by one of our customers here, it was the first to win approval of the Los Angeles County Air Pollution Control District. It was described by the director of that group as "a milestone in the progress of smog eradication". Many similarly successful Whiting installations have followed.

Stevens H. Hammond



WHITING CORPORATION
HARVEY, ILLINOIS

MANAGEMENT BRIEFS

Standard-Vacuum Oil Co., balked in its plan to build an office building at Rye, N. Y., by opposition from the town's residents (BW-Jul.4'53,p73) has changed its plans—but only slightly. Last week the company paid a reported \$400,000 for a 55-acre tract in Harrison, N. Y., right next to Rye. A two-story structure, with office space for 700, is expected to be ready for occupancy early in 1955.

Frank G. Hough Co. has added a profit-sharing feature to its employee retirement plan. It will contribute 5% of its net before taxes, nearly three times the amount employees contribute. Employee contributions must be invested in government bonds, but company contributions can be used to buy high-grade stocks and bonds if approved by the retirement committee.

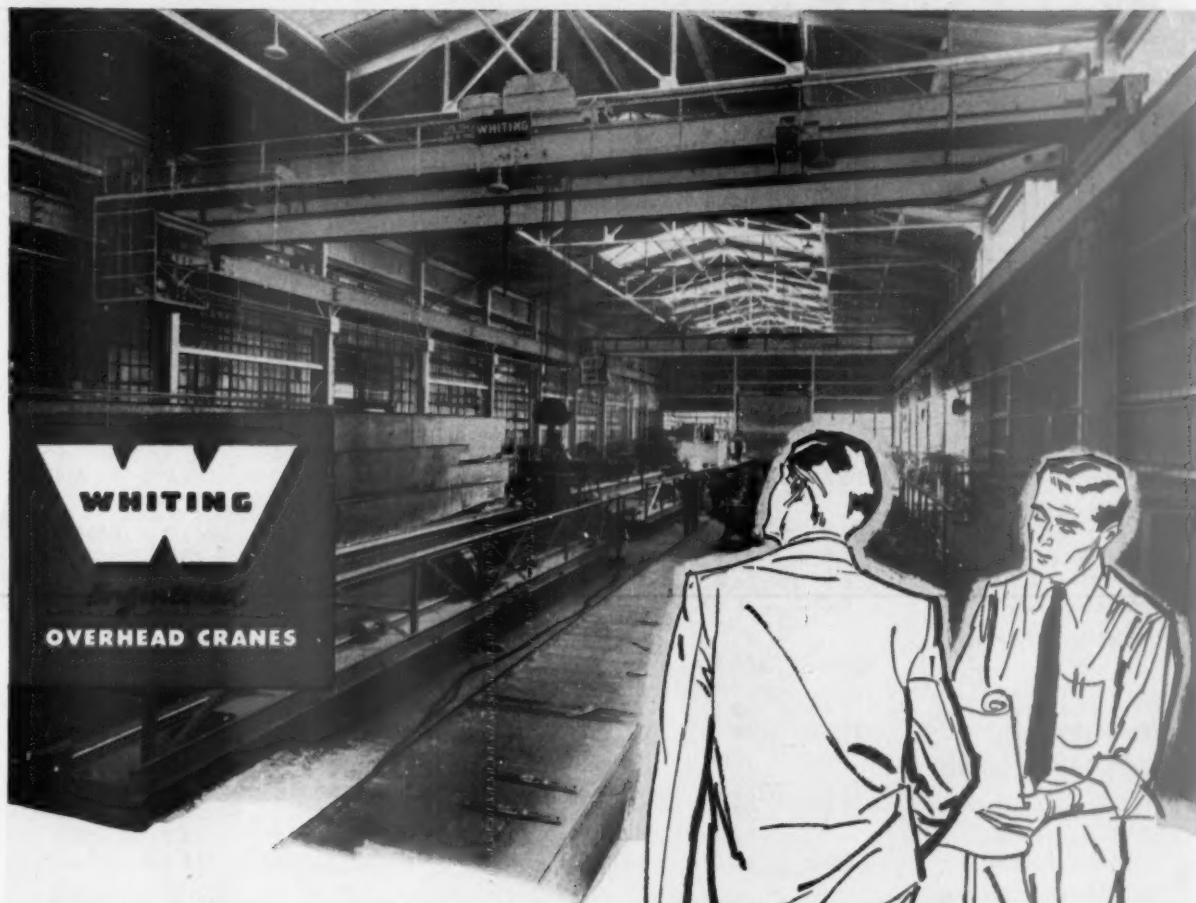
Willys Motors, Inc., subsidiary of Kaiser Motors Corp., has named four new vice-presidents, two of them former Willys-Overland officials and one a Toledo lawyer. At the same time, R. R. Rausch, executive vice-president and general manager of Willys, got three new posts: vice-president of Kaiser Motors Corp., and directorates in Kaiser & Frazer Parts Corp. and Kaiser-Frazer Sales Corp.

How good are community relations programs? The Bureau of National Affairs, Inc., Washington, D. C., in a survey of big and small companies, found more than 15% of those questioned had no way of evaluating results. Another 15% used surveys to find out how good such programs are, 10% listed success in recruiting personnel as one measure of effectiveness.

Boston truck drivers, members of the AFL Teamsters, are going to get a ninth paid holiday starting next year. Each of the union's 6,000 members covered by a new contract will get off on his birthday. Slick Airways, Inc., Burbank, Calif., has a similar arrangement for its employees (BW-Jul.25 '53,p104).

Hawaiian Commercial & Sugar Co., largest U.S. sugar plantation, held an August open house, gave its beauty queen something special in prizes: four shares of common stock (about \$27).

Aluminum Co. of America is granting 39 four-year college scholarships annually for the next four years to children of employees under a new program starting this fall. The scholarships are worth \$500 a year.



Hitch your handling to a star

consult **WHITING** for cranes!

This big sky hook at Whiting speeds crane deliveries to you! We use cranes to *build* cranes because these Whiting overhead giants move heavy loads—like girders, beams and machinery—easier, faster, safer, at lower cost than any other prime mover! Whiting Cranes are star performers because they are engineered to the job. Whether you want to move materials weighing five tons or 450 tons . . . take advantage of Whiting's 60 years of experience in mechanized materials handling. This experience, plus advanced engineering and expanded manufacturing facilities, assures peak crane performance. Write today for complete information, quotations and delivery.

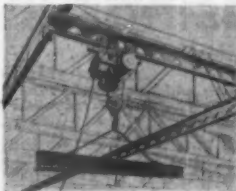
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Chain Hoists



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Whiting Corporation also
manufactures Aviation,
Foundry and Railroad
Equipment; Swenson
Equipment for the
Chemical Process
Industries, and Metal-
Working Machinery

FINANCE

Tire Companies: Prewar, War and Postwar

	(Millions of Dollars)						
Fiscal Year	1939	Best War Year*	1940	1949	1950	1951	First Half 1953
ARMSTRONG RUBBER...							
Sales	—	\$6.8	\$33.3	\$31.5	\$41.4	\$50.3	\$55.4
Taxes	—	.4	.9	.4	1.7	4.8	2.1
Net Income	—	.5	1.7	.7	2.3	2.8	1.7
**Profit Margin	—	13.2%	7.9%	3.4%	9.8%	15.1%	6.8%
DAYTON RUBBER...							
Sales	\$9.1	\$20.9	\$27.3	\$23.5	\$37.2	\$54.6	\$54.0
Taxes	.2	1.6	.5	Cr .1	2.0	3.9	.5
Net Income	.9	.8	.7	D .1	2.2	2.4	1.5
**Profit Margin	10.7%	12.2%	4.5%	—	11.4%	11.6%	3.8%
FIRESTONE T. & R.							
Sales	\$160.1	\$481.7	\$633.8	\$579.6	\$690.5	\$975.7	\$965.3
Taxes	1.9	37.8	21.9	12.4	39.2	75.7	40.9
Net Income	6.7	16.4	27.7	17.8	33.3	48.4	43.1
**Profit Margin	5.4%	8.0%	7.8%	5.2%	10.5%	12.7%	8.7%
GENERAL T. & R.							
Sales	\$24.0	\$73.8	\$105.9	\$92.6	\$125.4	\$170.8	\$165.9
Taxes	.6	4.1	2.8	.6	7.2	12.8	5.9
Net Income	2.1	2.1	4.8	1.0	8.6	7.0	6.1
**Profit Margin	11.5%	8.4%	7.2%	1.7%	12.5%	11.6%	6.5%
GOODRICH, (B. F.)							
Sales	\$141.5	\$372.0	\$419.8	\$387.9	\$543.3	\$637.7	\$624.1
Taxes	1.5	33.3	21.9	14.2	45.4	78.5	57.0
Net Income	6.7	12.3	23.7	20.9	34.7	34.7	32.3
**Profit Margin	5.7%	12.3%	10.9%	9.1%	14.7%	17.8%	14.3%
GOODYEAR T. & R.							
Sales	\$200.1	\$786.7	\$704.8	\$633.5	\$845.1	\$1,101.1	\$1,138.4
Taxes	1.5	56.4	28.7	17.9	48.9	74.9	69.0
Net Income	9.8	15.2	24.0	20.2	35.1	36.6	39.0
**Profit Margin	5.7%	9.1%	7.5%	6.0%	9.9%	10.1%	9.5%
LEE RUBBER							
Sales	\$14.5	\$26.4	\$35.7	\$31.9	\$39.3	\$50.4	\$45.3
Taxes	.9	2.8	1.3	.8	2.5	3.3	1.4
Net Income	1.5	1.3	1.2	1.2	2.9	2.2	1.8
**Profit Margin	16.6%	15.4%	9.3%	6.4%	14.0%	10.9%	6.9%
SPERLING RUBBER							
Sales	\$10.2	\$11.7	\$28.4	\$25.3	\$38.3	\$43.6	\$41.6
Taxes	.05	.4	.3	Cr .2	2.4	2.4	1.3
Net Income	.8	.7	.5	D .4	1.8	1.2	.7
**Profit Margin	8.6%	9.8%	2.6%	—	11.1%	8.3%	5.0%
U. S. RUBBER							
Sales	\$195.3	\$422.3	\$573.0	\$518.2	\$696.5	\$838.0	\$851.1
Taxes	2.4	42.0	14.8	10.4	31.1	71.1	64.4
Net Income	10.2	14.2	20.1	15.1	24.7	30.4	28.1
**Profit Margin	6.5%	13.3%	6.1%	4.9%	8.0%	12.1%	10.9%

*—From Profit Statement. **—Pre-war Earnings as Percent of Sales. Cr—Credit. D—Debit. N/A—Not Available.

The Goal: 100-million Casings in 1953

Tire manufacturers still have their sights trained on a 100-million production total for 1953, despite high inventories and some price softness at the distributor level.

Last year the industry produced 90-million casings for passenger cars, trucks, farm machinery, and airplanes. In the first half of 1953, passenger and truck tire shipments alone topped 50-

million; July boosted this figure above 60-million.

• **Inventories**—Last month, retail sales slowed at some points. This August doldrum of the dealers failed to shake

Pick up a 'phone
and dictate ...



...but be sure
there's a
DICTAPHONE
TIME-MASTER
at the other end
of the line!



DICTAPHONE®
CORPORATION

Greatest name in dictation

SEND IN THE COUPON NOW →

Dictation by telephone has been perfected in Telecord—by Dictaphone.

Dictaphone's adaptable Telecord System links any number of dictators to one or more central recording machines, using simple, low-cost desk telephones.

Check these Dictaphone Telecord highlights—

- ✓ Exclusive, easy-to-use *complete* controls.
- ✓ Private line service for every dictator.
- ✓ Simple, tamper-proof operation.
- ✓ You merely talk into a phone . . . get back a typewritten letter.
- ✓ Output per man goes up, costs per letter go down.

And remember, only Dictaphone Telecord has the TIME-MASTER—the world's favorite dictating machine—on the other end of the line!

Transcribing departments benefit from the unmatched clarity of the TIME-MASTER'S unique *Dictabelt*. The whole system enjoys unequaled dependability at its nerve center.

Have a Dictaphone Telecord survey made of your office, without obligation.

Dictaphone Corp., Dept. BU93,
420 Lexington Ave., N. Y. 17, N. Y.
Please send me my free copy of "Dictation by Phone."

Name _____

Company _____

Street Address _____

City & Zone _____ State _____



Talide
(TUNGSTEN CARBIDE)
THE WORLD'S HARDEST METAL

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- 2 Hard as a diamond and almost indestructible, it triples output per man and per machine.
- 3 New heavy-metal alloy (17.5 specific gravity) has proven best for atomic radiation screening and for applications requiring maximum weight in minimum space.

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METAL CARBIDES CORPORATION
YOUNGSTOWN 7, OHIO

SINTERED CARBIDES NOT PRESSED CARBIDES

DIES, BAR STOCK, TOOLS, ROLLS, GAGES, DIAMOND WHEELS AND DRESSERS, HEAVY-METAL, BUSHINGS, BLADES, CENTERS.

Does your letterhead....

Build Prestige?

An important part of the impression made by your typewritten salesmen — your letters — comes from the paper they're on. If your letters are important — as of course they are, or why write them? — then the paper that carries them needs the *feel and fact of quality*. You can get this with Parsons fine writing and bond papers. They're made with new cotton fibers.

Find out for yourself. See how a leading designer, Lester Beall, thinks letterheads should be made. Our portfolio of ten Beall designs, on three Parsons papers, also gives his ideas on "How to Design a Letterhead" — the portfolio's title. It won the distinction of acceptance by The American Institute of Graphic Arts' show, "Printing for Commerce, 1953". Write today on your letterhead for your *free copy*. Parsons Paper Company, Department 91, Holyoke, Massachusetts.



the manufacturers from their earlier predictions that the 100-million mark would be exceeded. But the distributors—and Wall Street financial observers—do not share the optimism of the tire producers. Most of the big wholesalers who feed tires to the retailers complain that their own inventories and those of the manufacturers are too high.

In the May-June-July period, manufacturers' inventories of passenger car and truck casings were over 16-million, the highest since 1929. Around Aug. 1 it was reported that these inventories were down to a bit over 15-million. But there are indications that this was merely a shifting of part of the stock burden to the middleman's shoulders; sales were slow despite the fact that distributors were offering concessions both to their regular retailers and to others.

The big tire makers poolpooh this reasoning. They argue that present inventories are not excessive when you consider that there are 55-million motor vehicles on the roads, more than double the 26.5-million rolling in 1929. And distributors point out that both manufacturers and wholesalers have to stock many more sizes and grades today than they did 24 years ago. They say that even with inventories at their present size it is frequently hard to put their hands on a particular tire.

• **Replacement**—All hands admit that there is a vast replacement tire sales field in the 55-million cars and trucks now in operation. Industry statisticians say there will be 46-million passenger cars in use at the end of this year; close to 36-million of them will be over two years old—a one-year increase of 2-million in two-year-olds and their elders.

Still, the continued fast use—and replacement—of passenger car tires depends on a continued high level of general business. Thus, the auto cities would have employment troubles if shrinking sales brought production cut-backs. The number of cars being driven to the auto plants, and to all their allied factories clear back to the steel mills, would decline. There would be less wear on the tires of the cars of idle workers, the buying of replacements would be delayed, and the tire business would taper.

By the same token, the rubber companies will share in the feast if general business continues high. The table (page 104) shows that both the Big Four and the larger independents are showing sales and earnings well ahead of either 1939, or their best war year.

• **Pre-tax Earnings**—In first-half 1953, Goodrich converted 15.5% of sales into pre-tax profits, U. S. Rubber 11.5%, Goodyear 10.5%, Firestone 10%, and Lee 8.8%. As a whole, pre-tax profit

It's a GOOD Trick

...and Lion's
new multi-
million dollar
refining units
will do it...



**... Get 50% More Super-Compression Engine Fuel
from Every Drop of Crude Run!**

More and more cars! Higher and higher compression engines! Far greater need for high-octane gasolines! That's why Lion Oil Company is adding new units for cracking, vapor recovery and alkylation at its refinery at El Dorado, Arkansas . . . to make better gasoline . . . and in order to produce 50% more high-octane gasoline per barrel of crude.

This is typical of Lion's long-range growth program. At Snyder, Texas, at the Lion-operated and partly owned Diamond M-Sharon Ridge gasoline plant, facilities and output have been expanded. Near New Orleans, Lion is investing \$31,000,000 in another petro-chemical plant. And Lion is becoming more and more active in the nation's search for crude oil and gas.

Those are a few of the reasons why Lion looks forward to an ever brighter future.

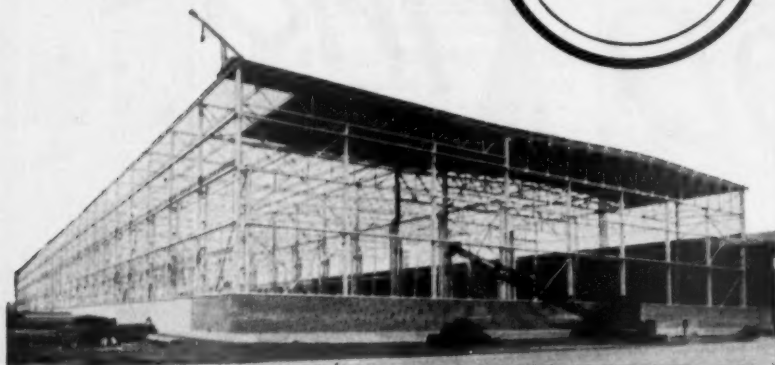


Keep Your Eye On

LION OIL COMPANY
EL DORADO, ARKANSAS

A LEADER IN PETRO-CHEMISTRY FOR AGRICULTURE AND INDUSTRY

CONSTRUCTION SCHEDULE:



Getting steel on the job to get this framework up on schedule took a lot of doing. Meeting a 60-day delivery deadline would be tough enough any time. Meeting it at a time of critical steel shortage posed a king-sized problem. But teamwork resulted in a job-speeding solution...and with no premium on construction costs.

International engineers worked with the general contractors, shared their experience to expedite completion—helped to design the building around available steel. International's large stocks yielded the 1,000-odd tons of steel required to start this project rolling. This joint effort met the tight construction schedule. In fact, within eight weeks after date of the order the first structural shapes were on the way!

Steel framing for new plant of
Shaw-Bax Crane & Hoist Division of
MANNING, MAXWELL & MOORE, INC.,
Muskegon, Michigan

CUNNINGHAM-LIMP,
Detroit, Michigan: Contractors

JOHN F. BEASLEY CO.,
Chicago, Illinois: Erectors

INTERNATIONAL STEEL CO.:
All Structural Steel



Only a completely coordinated organization could have satisfied the stringent requirements of the job described above. This same all-inclusive — and always interested — service is ready to work with you on any problem involving steel fabrication. Write today and tell us about your needs.



1965 EDGAR ST. • EVANSVILLE, IND.

INTERNATIONAL STEEL COMPANY

margins were better than those in first-half 1952.

Today, rubber company profits are not so sensitive to the ups and downs of the tire business as they were 10 years ago. Most companies now have a diversified list of rubber products, and many have expanded into the chemical and petrochemical fields.

Still, it is anybody's guess how long the companies will be able to maintain their pre-tax profit margins. Payrolls usually are a big part of their production costs, and there are signs that the labor bill is going to become larger. Over the past weekend, Firestone signed a new wage agreement boosting the pay of its CIO rubber workers by 5¢ an hour, plus other benefits expected to cost 7¢ an hour. This pact is widely expected to set a pattern for the industry.

• **View in the Street**—Wall Street—which began fearing an ultimate recession almost back to V-J Day—has discounted rubber shares more sharply than it has industrial stocks generally. Firestone common is selling around 22% below its 1953 high, General Tire is off about 15%, Goodrich 18%, Goodyear 18.5%, Lee 21%, and U.S. Rubber 17%. Meanwhile, Standard & Poor's index of 50 industrial stocks stands less than 11.5% below the 1953 high, recorded in January.

Major rubber executives, though, refuse to be worried by reports of soft spots here and there. One of them put it this way: "The over-all picture is too bright for any of us to get ulcers right now." Another leader laughed off pre-Labor Day promotion sales at 25% cuts below list prices. He said that the cuts last spring, July 4, and Labor Day were just special sales for slack periods, and were also held in 1951 and last year. "Four tires for the price of three is par for the course at present," he added.

• **Plant Closed**—Even the closing by the government of its synthetic rubber plant at Institute, W. Va., failed to alarm the trade. The move, it was said, reflects increased use of natural rather than any expected drop in the production of rubber goods. For the first seven months of this year, consumption of all types of rubber reached 837,000 tons, a rise of 17% over 1952. Of the total, 60% was synthetic and the rest natural. The 335,000-ton consumption of natural was a 34% rise over 1952.

For the full year, a record consumption of 1,375,000 tons of all types is predicted.

The closed plant at Institute is a high-cost operation, and is always the first to be closed when production of synthetic is cut back. That's because it uses alcohol-butadiene that is made from high-cost feedstocks, rather than



Today's most dependable price tag

Maybe there was a day you could take quality for granted in buying plant equipment. But you weren't faced with today's fast-multiplying, high maintenance costs that can quickly cancel out first cost values.

Today's opportunity for thrifty buying is not in the price, but in greater assurance of quality. In piping equipment, for example, it's the ultimate cost that determines real value . . . not what you pay for it.

That's why thrifty buyers prefer Crane—the traditionally better quality piping materials. With each Crane valve or fitting installed, there's greater assurance of longer life, dependability, freedom from repairs . . . and Crane puts such quality into piping equipment for every industry.

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Three large, fully equipped plants geared to meet today's rigid production requirements... single shift capacity of 10,000 relays per day!

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butadiene from cheaper petroleum.

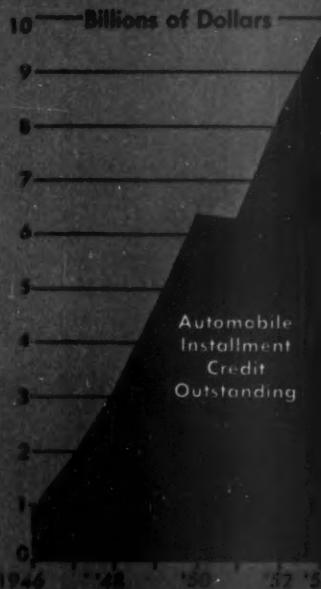
• **Price Angle**—A price situation also lies behind the closing. Top-grade tree rubber is selling at around 23¢ a lb., which brings the average price for all grades used in tires to about 21½¢ a lb. Clearly, that's more attractive than the 23¢ a lb. price of synthetic.

Far Eastern rubber growers have been demanding that the U.S. government boost the price of synthetic to 26¢ or 27¢ a lb. They charge that the

23¢ price is subsidized, and that it depresses the price of natural and thus endangers the economy of the Far East. Washington has shown no signs of following the suggestion.

Meanwhile, even the prospect of a reduction in car assemblies because of a fire in the General Motors transmission plant (BW—Aug. 22 '53, p. 29) has failed to shake the faith of the Big Four that the nation will easily absorb all the tires they can turn out.

Auto Sales on Time Have Zoomed . . .



... And so Have the New Capital Needs of General Motors Acceptance Corp....



Lenders Have to Borrow

In recent decades, General Motors Acceptance Corp.—like its parent General Motors—has been an infrequent visitor to Wall Street.

Things have changed this year, though. In June, GMAC staged a public offering of \$150-million five-year debenture 4s, its first visit to the Street's new issues market in 17 years. Now another call is in the cards. Later this month you can expect the company to sell \$150-million in eight-year debentures.

Behind both borrowings lies the company's ever-growing need for working capital as auto sales on time continue to shoot up (chart above). What's more, GMAC is not sure that its new-money needs have yet been satisfied. In registering its second offering last week, the company told the Securities & Exchange Commission that it might have to borrow still more.

• **A Bargain**—Obviously, the interest

rate and offering price of the eight-year debentures won't be known till they go on sale.

Most Wall Streeters, though, don't believe they will prove to be as much of a bargain as the June offering turned out to be. That issue was offered at a moment when—unlike the present—the money market was particularly weak. As a result, no chances were taken by GMAC's fiscal managers, and by the syndicate, headed by Morgan, Stanley & Co., that handled the deal. The new issue was given an attractive above-the-market rate of 4%, and was offered to investors at par.

Because of the smart handling of the offering it quickly proved to be the most successful new-issue sale of the year. Subscriptions for the debentures far exceeded supply. As a result, when trading started in the new bonds prices quickly ran to as high as 103½ of par.

Since then the bonds have shown

POWER
behind the
PRESSURE

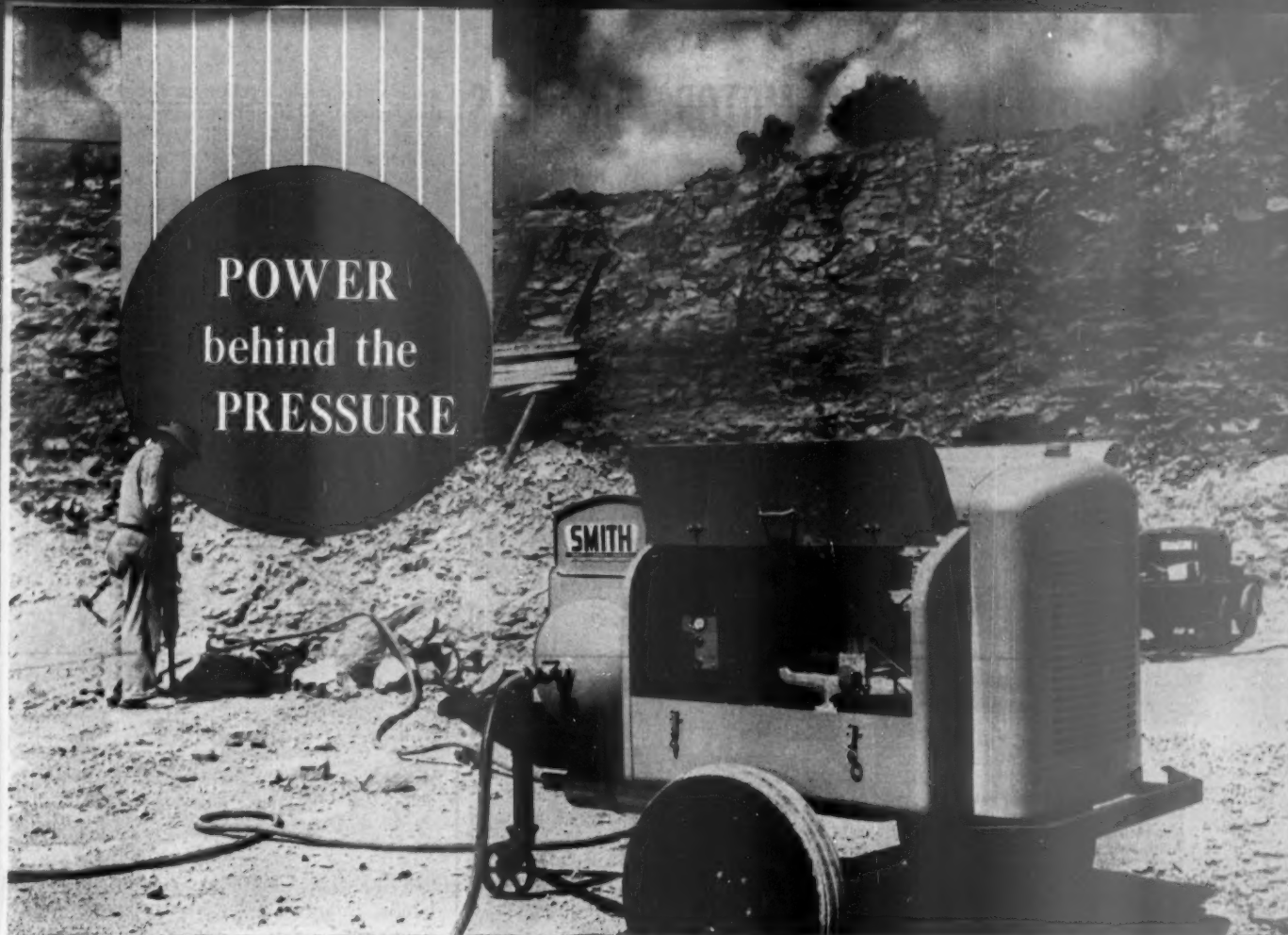


Photo courtesy Gordon Smith and Company, Bowling Green, Kentucky

*air...120 cubic feet
per minute...with
Chrysler-modern
industrial power*



Here's Pedigreed Horsepower in another role . . . this time it's the Chrysler Industrial Model 22 Engine whose 413 cubic inches displacement is powering an air compressor. The air compressor, in turn, is operating a rock drill with which holes are being prepared for blasting. Fifty-five pound rock drills, two eighty pound paving breakers, two eighty pound sheeting drivers, four backfill tampers, two concrete vibrators . . . they're all "duck soup" to this Air Compressor.

The outstanding power to weight ratios of Chrysler Industrial Engines make them ideal power plants for light, compact, portable equipment like this Gordon Smith Air Compressor. The total weight of this entire unit is below the

weight of the power plant alone in some air compressors.

Greater power per pound weight, longer service with less maintenance . . . these are important advantages of Chrysler Industrial Power. Another is your ability to select Chrysler Engines equipped to your needs *without* substantial increase in the unit costs of engines. That's because Chrysler production-line methods adapted to specialized industrial engine building, provide custom-built engines at mass-production prices.

Chrysler Industrial Engine sales and service facilities are nationwide. Let the nearest dealer show you what Chrysler Power can do for you, or write: Dept. 19, Industrial Engine Division, Chrysler Corporation, Trenton, Michigan.

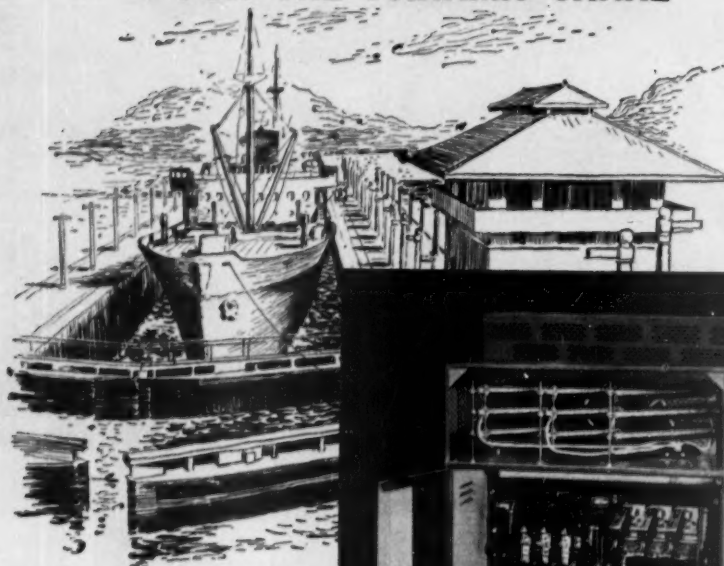
CHRYSLER
Industrial Engines

HORSEPOWER



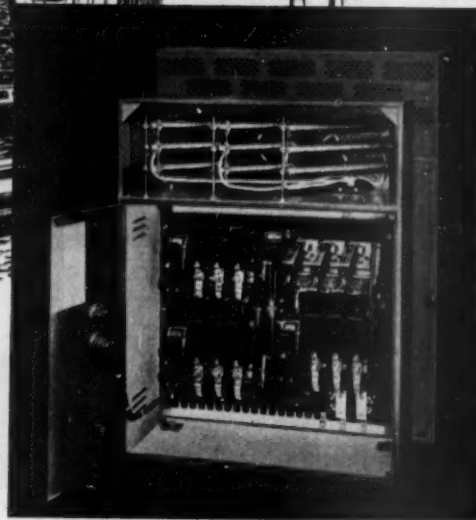
WITH A PEDIGREE

IT'S FEDERAL NOARK® MOTOR CONTROLS FOR THE PANAMA CANAL



ABOVE: View of the upper pair of the Miraflores locks and one of the control towers from which the new Federal Noark motor controls are operated.

AT RIGHT: Interior and exterior views of one of the eight types of motor controls built for the canal project.



THE PANAMA CANAL is now undergoing an extensive modernization program. One phase requires new electric motor controls for the locks... and Federal Noark devices are being installed. These controls will assure the safe, efficient motor starting required for rapid and continuous canal service.

Unique requirements

Special processes in the manufacture of these 398 motor controls were necessitated by the specifications. Wire insulation, for instance, and other parts likely to deteriorate under tropical conditions had to be protected against "attack by insects, especially cockroaches and termites," and made fungus-proof with suitable shellac. To accomplish this, Federal engineers treated each part separately before assembly.

Fastest-growing in its field

Federal Noark developments in recent years have brought new efficiency and economy throughout the whole range of electrical control equipment. The huge demand for Federal products has been met by a continual increase in manufacturing facilities, and today there are 11 strategically-located Federal plants serving the electrical industry the country over.

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some unfavorable reaction to the news that another \$150-million were in the offing. Even so, you still have to pay a premium of around two points.

• **What It's For**—Outsiders may wonder what GMAC has been doing with all the money it has had to borrow since the war. But consumer financing experts see nothing strange in the huge debt load. Everyone in the trade is in the same boat, due to the record number of automobiles that have been bought on credit since V-J Day, and especially in recent months. No one has or ever could have enough equity capital and retained earnings to finance all the available business.

Even in normal times the trade has to borrow money to finance dealer and consumer operations. And there has been nothing normal about the post-war years. To meet the record demands for loans by both dealers and individuals, the finance companies have had to boost their short-term bank loans, their sales of commercial paper to nondepository banks and other investors, and their longer-term borrowing from the public and from such institutional lenders as the life insurance companies.

GMAC, the largest unit in the field, has been the biggest borrower. But its competitors have borrowed just as heavily, in proportion to size. At midyear, C. I. T. Financing Corp., the second largest financing company, had long- and short-term debts of nearly \$1.1-billion, compared with less than \$250-million at the end of 1946. Commercial Credit Co., the third largest, reported almost \$850-million borrowings at midyear, compared with only \$155-million borrowings six and a half years earlier.

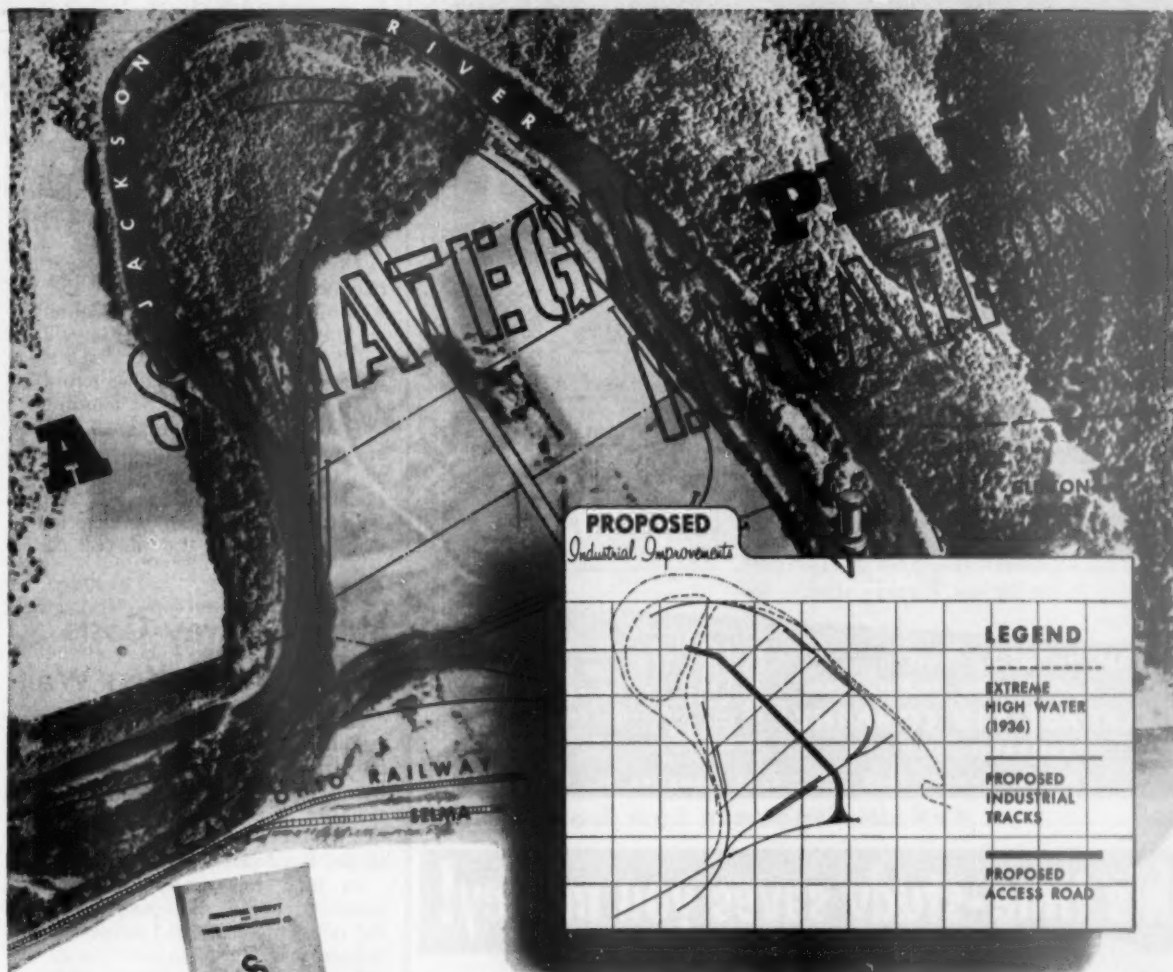
New 1-Year Certificates

New one-a-year certificates bearing a 2½% coupon, new 3½ year notes paying 2½% annually, and/or cash . . .

That's what the Treasury this week was offering holders of \$7.9-billion of 2% bonds that fall due Sept. 15. But it is hoping that not many holders ask for cash. If too many do, it will mean more borrowing later—and that will aggravate an already tight financing schedule over the weeks ahead.

• **Interest Record**—Wall Streeters, however, don't think Treasury officials need to worry on that score. The 2½% coupons on the 3½-year notes, they point out, represents a 20-year high in the rate of interest the Treasury has paid on such paper. And you can say virtually the same for the 2½% rate on the one-year certificates. This matches the 20-year high interest rate paid last June and in mid-August by the Treasury on similar loans.

This month's exchange offerings, Wall Streeters hold, are "generous"



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you need on this or the
many other advantageous
industrial sites in C & O
territory. Send your inquiry
— in complete confidence, of
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Industrial Development Department, Cleveland 1,
Ohio; Detroit, Michigan, or Huntington, W. Virginia.

There are few cities the size of Clifton Forge, Va. (population 5795) that have such wonderful rail service. On the main line of the C & O, you have fast deliveries to New York, Philadelphia, Washington, Cincinnati, Columbus, Cleveland, Detroit and Chicago.

Freight gets unusually expeditious handling, because Clifton Forge is not only an important junction point but also has one of the largest classification yards on the C & O. These, plus several other advantages, make Clifton Forge an ideal location for many industries.

We can offer several choice industrial sites in and around Clifton Forge, including one of 142 level acres well above high-water line. This can be sub-divided to suit purchasers.

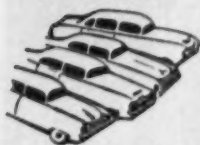


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Process AIR

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Heated AIR

AIR at All Fan
Pressures

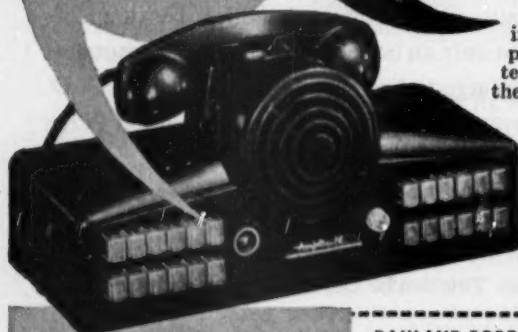
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SAVE HOURS
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Actual time studies taken in hundreds of businesses show that an average of 18 seconds is required to make an "inside" speech contact through the switchboard. With AMPLICALL—your own "clear line" internal communication system—you get 2-second speech contact within and between departments. AMPLICALL frees busy switchboards for important outside calls—keeps personnel on the job, keeps talk terse—saves hours each day for the average business. AMPLICALL saves you money—pays for itself. There is a system to fit your special needs. Get the full facts today!

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and fully reflect going market rates for such securities.

• **Long or Short-term**—The Treasury would like to see holders take the 3½-year notes, for this would fit in nicely with its hopes of "lengthening out" the federal debt. However, last February, when holders of \$8.8-billion of maturing securities were offered a choice between a 70-month and a one-year issue, only \$620-million chose the longer-term issue.

How valid the Treasury's aspirations may be this time is a question. Of the \$7.9-billion of 2s, around \$3.4-billion are held by corporations, individuals and other nonbank investors. To many of these the bait of a higher return for a 3½-year security may be tempting.

However, the remaining \$4.5-billion are in the hands of commercial banks and the Federal Reserve banks. Traditionally preoccupied with "keeping liquid," the banks can be expected to make a beeline for the one-year certificates.

Superhighway Costs Mount While You Wait

Superhighway costs are climbing.

When the Kansas Turnpike Authority was set up in April, it drew plans for a superhighway to run from Kansas City to the Oklahoma line below Wellington, Kan. The estimated cost of the three-year job: \$100-million.

In June, however, when Authority members began discussing financing, the talk centered around a cost of \$105-million.

Now Gale Moss, Kansas highways director, estimates the road will cost \$120-million.

And farther East, West Virginia is figuring it will have to come back into the market for more money to finish its two-lane, 88-mi. toll turnpike (BW—May 30 '53, p110).

In April of last year, a \$96-million issue of 3½% revenue bonds of 1989 was purchased noncompetitively, and immediately reoffered publicly, by a group of 188 underwriters headed by Bear, Stearns & Co.

It now seems this won't be enough—though it doesn't fall short by a great margin. How much extra the state will need won't be known until final paving and miscellaneous contracts are awarded in October.

The added funds, underwriting circles hint, will be raised in the same way as the \$96-million.

Target date for completion of the highway is July 1, 1954, at which time toll collections are expected to start. The pike will run between Charleston and Princeton, W. Va., but ultimately it may be extended to the West Virginia line.

FINANCE BRIEFS

E. I. du Pont de Nemours & Co. shelled out more money for federal income taxes than it paid its employees in wages and salaries for the first six months. Uncle Sam's tax take, reflecting an 18% sales rise, was \$233-million, while the 90,000 du Pont employees got \$226-million. The \$233-million doesn't include \$16-million state, local, or social security taxes.

Deposits in the nation's 528 mutual savings banks set a record at \$23.7-billion in July. A \$112-million increase rung up during July was 6% larger than the gain during July, 1952, says Richard A. Booth, president of the National Assn. of Mutual Savings Banks.

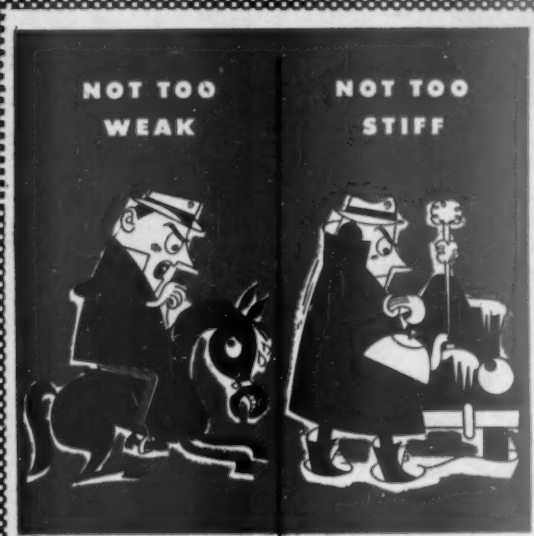
Tax-exempt bond prices have eased slightly. The average yield of the 20-year bonds in the Dow-Jones municipal bond average on Monday of this week was 2.84%, contrasted with 2.83% a week earlier. It was the first time in nine weeks that prices had tended lower.

Consolidated Textile Co. is planning to buy for cash 28,000 more shares of Bates Mfg. Co. The deal would increase its holdings in Bates to 587,000 shares, or one-third the 1,761,750 shares outstanding, says Lester Martin, Consolidated president.

Reconstruction Finance Corp.—the government lending agency slated for liquidation—is expected to market around \$9-million of the best of its \$20-million of tax-exempt bond holdings sometime this month. Most of the bonds were issued by communities that lacked the size or credit rating needed to borrow in the market at an acceptable interest rate. Bidders will probably be local dealers.

Sales of Federated Department Stores, Inc., in the 13 weeks ended Aug. 2 rose to nearly \$104.9-million from \$96.3-million in the 1952 period. However, net income ran counter to the general retail store trends, totaling a little under \$1.4-million, compared with \$1.9-million in the same weeks last year.

Conservation: Avco Mfg. Corp. directors last week deferred action until November on the common dividend usually paid in September. Reason given: to conserve working capital for promotion of Crosley and Bendix lines. Another company—Philadelphia & Reading Coal & Iron Co.—omitted its third-quarter dividend "to conserve cash."



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Fort Howard Paper Towels



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dry better!

There's no economy in buying two paper towels to do the work of one . . . no satisfaction in using a towel that's too stiff for comfort, or falls to pieces when it's wet.

For real economy and full satisfaction, buy Fort Howard Paper Towels. **CONTROLLED WET STRENGTH** makes Fort Howard Towels strong and firm without sacrificing softness or absorbency. **STABILIZED ABSORBENCY** provides effective drying power regardless of age, and Fort Howard Towels are **ACID FREE**.

Fort Howard Towels are available in seventeen grades and folds, to fit your present folded towel equipment . . . and we can furnish new equipment if needed. For Towels that are always available, consistently high quality, and priced right, call your Fort Howard distributor salesman today, or write Fort Howard Paper Company, Green Bay, Wisconsin for full information and samples.

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Towels Fit
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For 33 Years
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Toilet Tissue and
Paper Napkins





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You're sitting pretty when you equip your chairs with Bassick "Diamond-Arrow" Casters. Unique Bassick two-level ball-bearing construction gives the easiest, smoothest swivel action. There are sizes for all types of office equipment . . . and for beds and furniture in your home. Soft rubber tread or solid composition wheels. For wood or metal furniture. Check your office supply or hardware dealer.

Comfort's there—under your chair!



Chair makers have the right angle when they manufacture swivel chairs with Bassick "Flo-Tilts". This tilting and swiveling mechanism gives quiet and smooth action . . . comfortable and safe balance. Tilting is controlled by long-lasting rubber torsion unit—no metal springs to break. Leading brands of office chairs have "Flo-Tilts", because their makers



know it's a sure way of protecting the seat of responsibility. THE BASSICK COMPANY, Bridgeport 2, Conn. In Canada: Belleville, Ont.



MAKING MORE KINDS OF CASTERS... MAKING CASTERS DO MORE

LOCAL BUSINESS



Hospital Food Served a la Airline

MINNEAPOLIS—Anyone who has ever spent any time in a hospital knows that one of the most annoying things about it is that hot foods are usually cold while the cold foods are invariably warm. Hospital administrators say this is one of the major causes of complaints from patients. Since Abbott Hospital here began using a new food-serving system, a couple of months ago, it has not had a single complaint on this score.

Abbott borrowed its idea from the airlines, where meals are often served successfully several hours after they have left the kitchen. The rolling food carts (picture) used by Abbott are very much like the galley of a transport plane.

Each cart has a cold side and a hot side. Trays with napkins and silver are put in the cold side well ahead of mealtime, whenever the kitchen help has time. Salads, fruit, and cold desserts are put on the trays perhaps 30 min. before mealtime. About 15 min. later, the hot food, on individual dishes, is put in the hot side.

The carts are then wheeled up to the corridor where the meals are to be served, and plugged in there (both hot and cold sides run on electricity). A hot dish is put on each tray just before it is handed to the patient.

The system has advantages for the hospital as well as for the patients. For one thing, it eliminates the need for

subkitchens on each floor. This saves both space and manpower and also cuts down on food waste. And fewer workers are needed in the main kitchen, because the work can be stretched out instead of lumped into peaks of frantic activity just before mealtime.

Hopes for Parkers: I

WILMINGTON, DEL.—In common with many other cities, Wilmington has been worried by the tendency of retail stores to build in the suburbs. Traffic congestion and shortage of parking space in the downtown shopping area have been a major cause.

Last week the operators of the local cab company, Yellow Taxi, Inc., offered the downtown merchants a plan to combat the trend toward decentralization. The idea is to provide a shopper with free parking plus a free taxi ride from the lot to any downtown store—if she spends enough while shopping. Here's how it would work:

Yellow operates two parking lots a few blocks away from downtown, with total space for 400 cars. A shopper would pay \$1 to put her car in the lot. In return she would get (1) the free taxi ride downtown, and (2) four scrip tickets for 25¢ each. These tickets would be good at any store that is a member of the plan for up to 10% of any purchase. Thus, one 25¢ ticket



An old mine with new ideas!

At Kennecott's Chino Mine in Santa Rita, New Mexico, you'll find mass mining... giant shovels that gouge out mountains of ore... the modern, efficient production of copper.

The mine isn't new. There has been a copper mine at Santa Rita for over a century. But the methods are new—as new as modern science can make them.

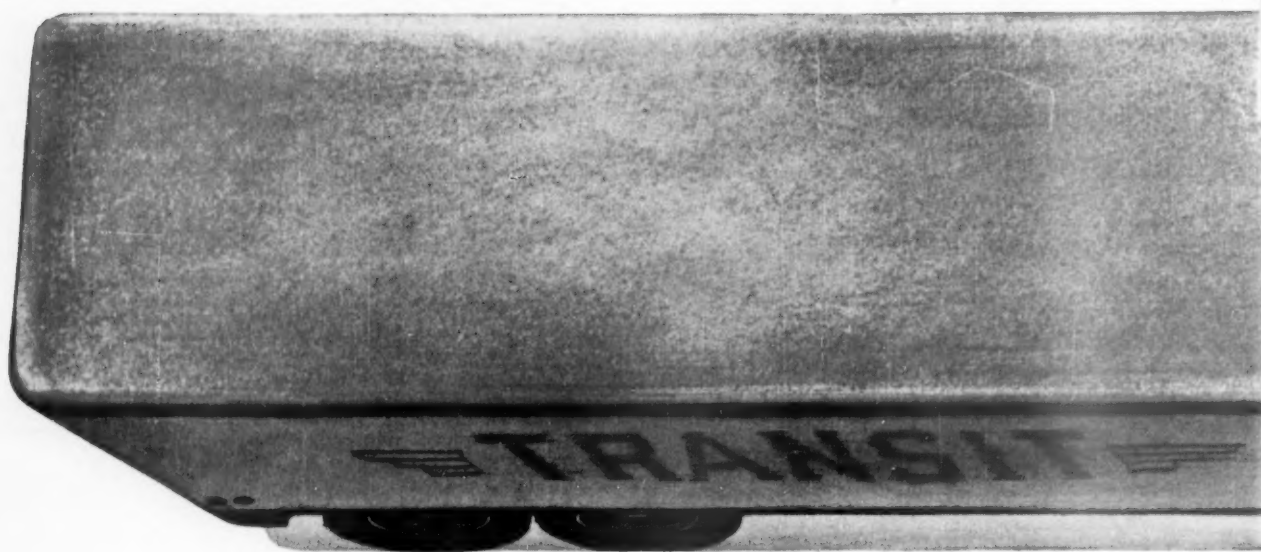
Kennecott is always ready to make a change in methods or equipment to provide a better, faster way to produce copper.

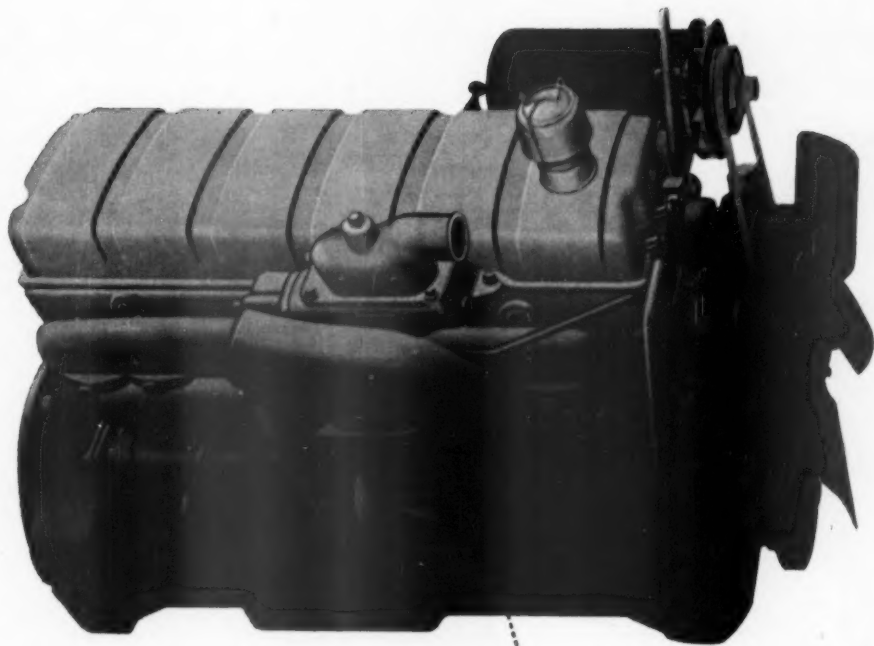
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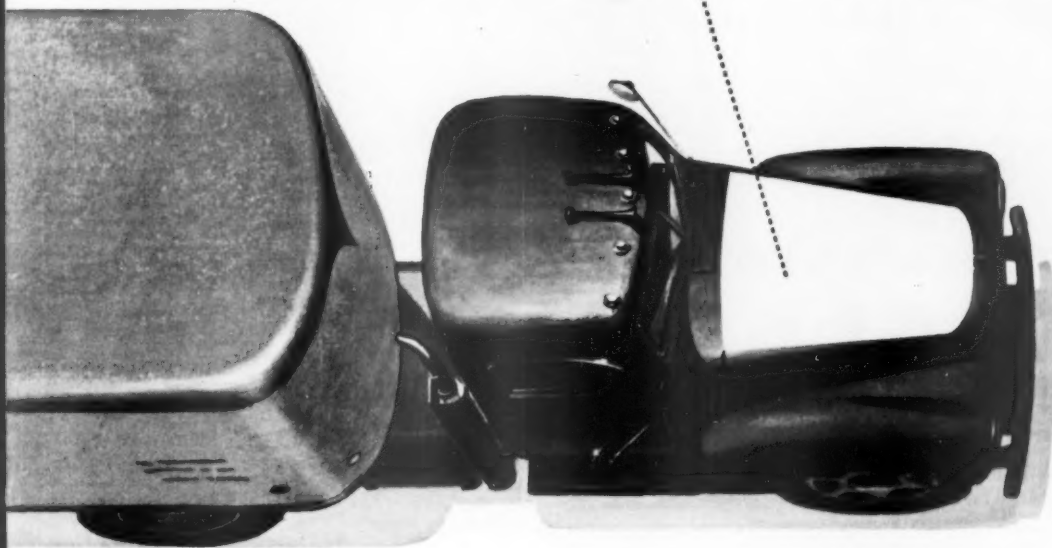
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This new 150 h.p. diesel now makes Cummins





performance and economy available to you



It's Cummins new Model JBS-600—ready to serve in the medium heavy-duty trucks produced by leading manufacturers. Ready to bring to this field the performance that has made Cummins the leader among high-output diesels. 150 h.p., the JBS-600 delivers full rated power for faster acceleration . . . for reserve stamina when the going is tough.

JBS-600 operators report more miles per gallon . . . lower fuel costs. This demonstrates the fact that Cummins' exclusive fuel and injection system—together with four-cycle operation and use of inexpensive Number 2 diesel fuel—naturally leads to savings on the job. The JBS-600 is ready to work profitably for you. It's Cummins-engineered for a long and useful life.

For all the facts—see your Cummins dealer!

Cummins® Engine Company, Inc. • Columbus, Indiana

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...It's a one-piece molding of **PLEXIGLAS**

The handsome face of this refrigerator handle is not an assembly of separate parts. The raised edges, the sides, lettering, markings, and background areas are all part of the same single molding—of PLEXIGLAS acrylic plastic.

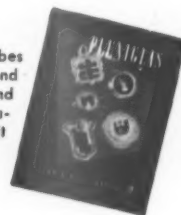
The molding is transparent—metallized and spray painted on the rear surface to produce the brilliant chrome bezel effect, the mirrored and richly colored backgrounds, the gleaming letters and decorations.

In addition to eye-catching appearance, the part has excellent serviceability. Because it is molded of PLEXIGLAS, its crystal clarity does not change with age . . . and it has the strength and stability to withstand hard knocks, sudden shocks, moisture, and constant handling.

The chances are that parts molded of PLEXIGLAS can add durable sales appeal to the product you are designing or manufacturing, too. We will be glad to tell you how this acrylic plastic, so widely used in many fields, can meet your specific requirements.

New Servel "Automatic Ice-Maker" gas and electric refrigerators feature handles that can be operated by wrist or elbow. Colorful handle-facings, $7\frac{1}{2}$ " x 4" x $1\frac{1}{4}$ ", are molded of PLEXIGLAS V-100.

This booklet, "PLEXIGLAS Molding Powders", describes the properties and advantages of PLEXIGLAS and shows how it is being used for molded parts and extruded sections in outdoor and indoor applications. Write to the Plastics Department for it today. You will receive it promptly.



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(but not more) could be used as part payment for a \$2.50 purchase; all four on a purchase of \$10 or more. Tickets would be transferable and nonexpiring.

Hopes for Parkers: II

SPOKANE—Despite parking meters on all main downtown streets, Spokane has been plagued with a shortage of parking space for passenger cars and of loading and unloading space for trucks. Now Safety Commissioner Carl Canwell thinks he has solved both problems at once. Studies this spring showed him that many parking spaces were occupied all day, from 8 a.m. on, by "meter feeders," who would run out occasionally to put in extra nickels. Curbs were invariably clogged by 9 a.m., and trucks were frozen out. He also found that truckers needed most space in the morning, while private cars needed most space in the midafternoon heavy shopping hours.

Meter-feeding is against the law. So motorcycle police now check all meter parking spaces starting at 8 a.m.; this alone has opened up a lot of curb space. In addition, the city has converted a good many parking spaces to loading zones from 7 to 9:30 in the morning, and has thrown open many regular loading zones to passenger car parking after 1 p.m.

Truckers are saving an estimated \$1,000 a week because they don't have to waste time driving around the block looking for a place to pull up to the curb. Traffic has been eased. Merchants are happy, because more parking spaces are open in the afternoon. Canwell hopes eventually to get all trucks off the downtown streets in the afternoon.

Water Shortage

SAVANNAH—When American Cyanamid Co. announced plans to build a big titanium dioxide plant here recently, the general reaction, as expected, was favorable. But now trouble has arisen that may prove serious.

Up to the mid-30s, Savannah had wonderful supplies of good ground water. It was easy to dig down to a stratum that had enough head to make the water flow without pumping. In 1936, Union Bag & Paper Corp. put up a plant here, with all of its tremendous water needs met from wells. Since then other paper companies have located in the vicinity, also getting their water from wells.

And the water table has been dropping steadily. About five years ago, the city took steps to get a supply of industrial water from the river to relieve the drain on ground water supplies, but that's only available in certain parts of the city. Cyanamid plans to get its en-

tire 6-million gal. per day from wells.

Last week 118 residents of the area along the coast south of the city filed a petition at City Hall objecting to the drilling of any wells by Cyanamid. They said their water table had dropped 24 ft. since the Union Bag wells were drilled in 1936 and said of the Cyanamid wells: "Such wells would lower our watershed considerably, resulting in detriment of water supply and definite damage to our property."

Subway Issue

CLEVELAND—A downtown subway for Cleveland moved a step nearer last week when the board of county commissioners voted to submit a \$35-million bond issue to the Cuyahoga County voters in the November election. The proposed subway would tie in with the existing rapid transit line that serves the Shaker Heights residential area, and with the rapid transit line now under construction by the municipally owned Cleveland Transit System. The subway would be a two-track loop starting from the Union Terminal on Public Square and extending east to East 13th St., thus reaching the principal downtown traffic points.

Fighting Goliath

MANCHESTER, GA.—When a single company completely dominates a town's economy, the townsfolk usually do pretty much anything the company wants them to. Not in Manchester. Despite opposition from the city's chief employer, the citizens have overwhelmingly backed a Chamber of Commerce plan to bring in new industry.

Manchester has just over 4,000 population. Callaway Mills Co., with headquarters in La Grange, 33 mi. away, employs about 1,100. The chamber has been looking around for new industry, and has nearly completed arrangements for bringing in a northern lingerie manufacturer who would employ about 60 people. Before closing the deal, the chamber conferred first with the company's officials at La Grange, and then with the citizens at a mass meeting here.

The company was not very cordial. A representative told the mass meeting that the company objected only to "outside" industry. But a member of the group that went to La Grange reported to the mass meeting that they gained the "very definite impression . . . that any industry—no matter what size or what it manufactures—would not be desirable." He added: "Our impression is that the labor supply is the question."

A motion to support the chamber's position was passed by a standing vote of 90% of the 400-odd present at the mass meeting.



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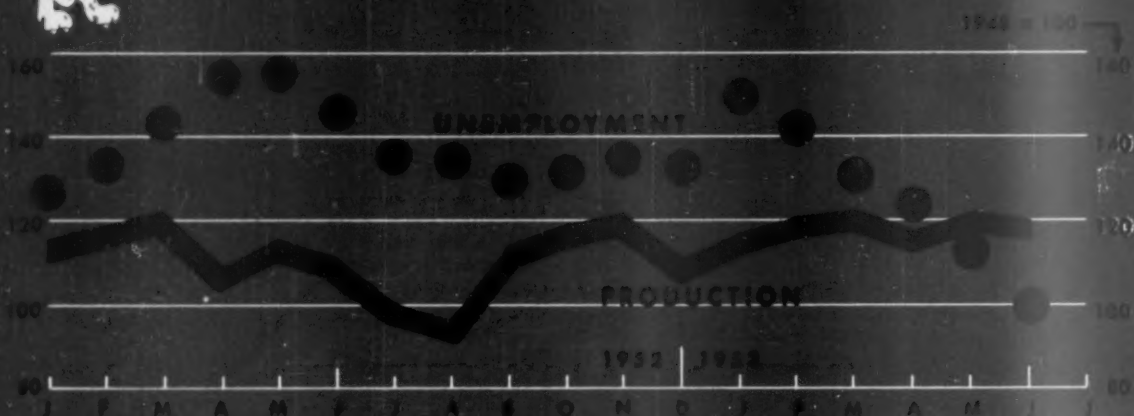
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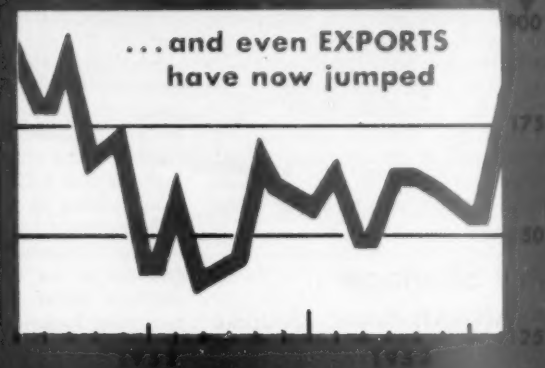
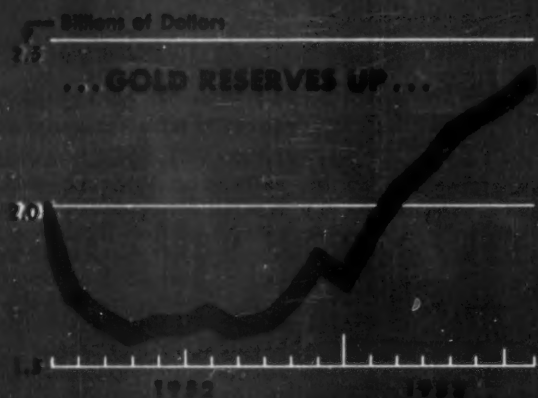
BUSINESS ABROAD



THE BRITISH ECONOMIC PICTURE:



PRODUCTION UP ... UNEMPLOYMENT DOWN ...



Brightening Now—Horizon Hazy

It's been a fine summer in Britain. A Queen was crowned, and Everest was conquered. Britons felt they heard their nation speaking with new vigor in world affairs. England won back the treasured "Ashes," symbol of cricket supremacy, in the matches with Australia. Over-all, the British Isles are warming in the unfamiliar sunshine of prosperity.

Indeed, most Britons will tell you that their economy—as well as their morale—is in better shape than at any time since the war.

Even the most gloomy economists find that statement hard to dispute. Britain has made a complete recovery from last year's recession, and has broken the two-year cycle of financial crises that plagued 1947, 1949, and 1951. The leaden austerity that has been characteristic of postwar Britain has all but disappeared. With only a few exceptions, the economic indicators point to fair weather.

• **Joys and Worries**—This week, for example, British housewives can buy real white bread for the first time in 11

years; rationing has disappeared for all intents and purposes; paychecks are fatter and factories are busier.

There are plenty of crossed fingers, to be sure. British good times are balanced precariously on conditions beyond London's control—ranging from the trend of U. S. business to the world prices for copper and wheat. Moreover, British economists viewing the present "consumer goods boom" worry that not enough resources and energy are going into exports, Britain's lifeblood. They worry, too, that inflation might price

Britain's goods out of a world market that's becoming more sharply competitive every day.

• **Proof**—You can't blink the evidence of British recovery (charts). The record over the past 12 months is impressive.

The industrial production index started lifting above 1952 levels right after the turn of the year, and hit a peak in May. Before the summer holidays, the steel, rayon, auto, and clothing industries had racked up new production records.

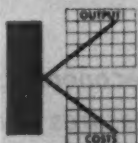
Unemployment has dropped steadily since January, is now nearly brushing the postwar minimum at about 1½% of the working population. Short-time working, widespread a year ago, is giving place to overtime. The national wage bill tops all records. Retail sales are above last year, with the Coronation a tremendous, and apparently lasting, stimulant. You can see this especially in television sets—sales have continued at almost the pre-Coronation peak.

The stock market reflects the revival. The index of industrial shares in London turned upward in mid-May and rose 10% through last month. Store stocks, naturally enough, were the best performers, up one-third since the first of the year. Great Universal Stores, Ltd., Britain's leading mail order house, has doubled its share value in the past year.

• **Caution**—Though they haven't wanted to throw a wet blanket on Britain's buying spree, government spokesmen have been at pains to emphasize its dangers. They warned that the revival is unhealthy if it's merely domestic and diverts resources from the export industries. A monthly Treasury publication, *Bulletin for Industry*, reported in July that additional production was being sopped up at home, and urged industry to push exports. The Treasury raised the bogey of foreign competition—especially German—to backstop its point.

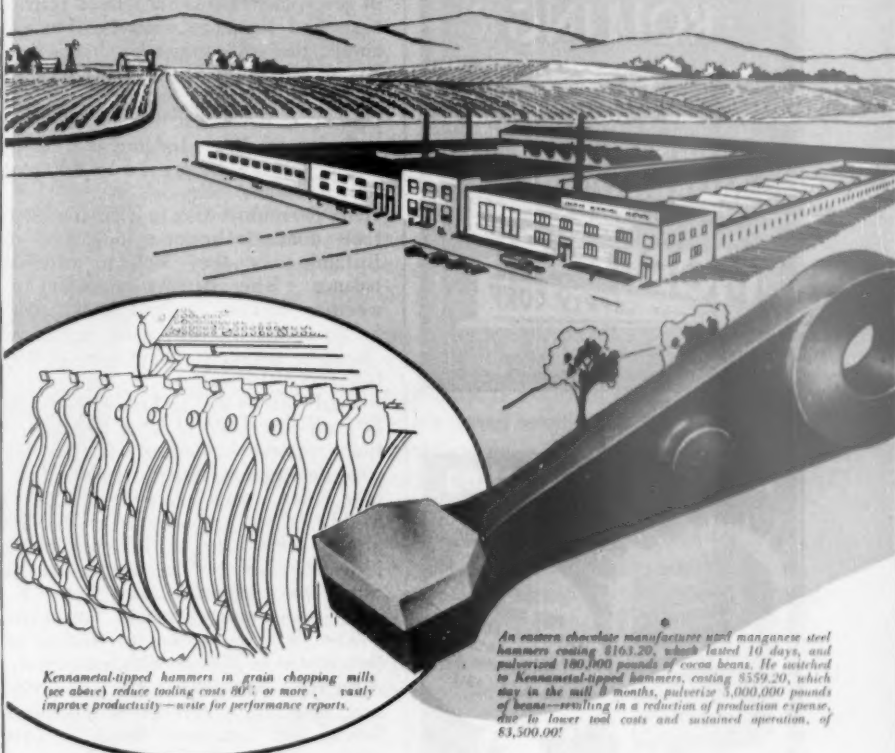
But the Treasury's warning lost some of its sting when July export figures came in. For the first six months of 1953, exports seemed the weak spot in the British recovery. Then July turned up as the best British export month in two years, especially in machinery and vehicles, where competition is sharpest, and especially in sales to the big dollar markets.

Indeed, exports to the U.S. and Canada have been rising smartly since spring. And while British exporters report a hard scramble for orders, and won't predict that recent successes will continue, they feel they have held their



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Kennametal-tipped hammers in grain chopping mills (see above) reduce tooling costs 80% or more, vastly improve productivity—write for performance reports.

An eastern chocolate manufacturer used manganese steel hammers costing \$163.20, which lasted 10 days, and pulverized 100,000 pounds of cocoa beans. He switched to Kennametal-tipped hammers, costing \$359.20, which are in the mill 8 months, pulverize 1,000,000 pounds of beans—resulting in a reduction of production expense, due to lower tool costs and sustained operation, of \$3,300.00!

Making soft chocolate requires hard tools—the harder the better, according to several manufacturers. Here's why:

Cocoa beans are pulverized into fine powder by thousands of blows from whirling hammers in a drum-shaped mill. Even the slightest hammer edge wear slows down production; stops it completely when the tools must be removed for repair or replacement.

Pulverizing hammers faced with Kennametal cemented tungsten carbide last 25 times as long as those made of manganese steel.* Significant fact is

this—even though original cost of Kennametal hammers is about three times that of steel—their ultimate cost, based on service, is only one-sixth as much!


Your product or production process, when wear is a critical factor, may be vastly improved by using Kennametal cemented tungsten carbide. It is a unique material—tough, strong, almost as hard as the diamond, up to 50 times as durable as steel.

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"...some British economists think drastic measures are necessary..."

BRITAIN starts on p. 122

own against the first real impact of postwar competition.

• **Hard Money**—Outsiders apparently share that view. Sterling has become a fairly hard currency in the exchange markets. The gold and dollar reserves of the sterling area have been creeping up month by month. That's important when you take into account the Churchill government's steadily relaxed restrictions and exchange controls. For example, the government has handed all but a few commodity markets back to private trade, but no flight from the pound has developed.

• **Paying Its Way**—Judging the health of the British economy is a lot different from economic diagnosis in the U.S.: Here, economists look to what are essentially domestic business indicators; in Britain's case they look to external balance. The decisive question is whether Britain is "paying its way in the world." Right now, Britain is closer to paying its way than at any time since the war.

That's partly due to luck. The terms of trade—the price of what Britain has to buy against the price of what it sells—have improved startlingly. Import costs have fallen steeply with the decline in world food and raw material prices: The import price index in July was down 13% from last year's average, while the export price index is down only 4%. The improvement means an extra £300-million in income to Britons as they buy more imports with less exports.

• **Buying Boom**—On the domestic side, there are a number of influences behind the "consumer boom." Last year's recession had some beneficial results—it helped work off inflated inventories, for one thing. The Conservative budget—mildly inflationary—provided for reductions in purchase taxes for some consumer goods. Then came the Coronation fillip to sales.

There's also the unmeasurable psychological effect of Conservative action to cut out rationing. Though prices have risen on most foods, something the Socialists decry as "rationing by purse," the new freedom seems to have given most Britons a feeling of well-being. At last, they are buying enthusiastically.

• **Future**—But for the long term, there's a gamut of uncertainties ahead, of course. Chief among them is the outlook for exports. There's some evidence that the present consumer boom is taking place at the expense of exports: The capital goods industries have been

losing workers to consumer trades. And despite the excellent July figures, one swallow doesn't make an export summer, and the long-term outlook for British sales abroad is hazy.

Competition is stiffening. Any inflation at home would weaken the competitive position of British exports dangerously. In fact, some British economists think that drastic measures are necessary to modernize and improve production of capital equipment for export—perhaps at the expense of the consumer. There are glooms who believe that today's consumer boom is the economic equivalent of fiddling while Rome burns—that with a slight change in the world economy today's domestic boom could lead straight to an external bust.

You constantly hear Britons talk of the danger of a recession in the U.S. World markets to which Britain mainly sells would shrink fast with any letup in U.S. buying abroad, to say nothing of Britain's U.S. market.

There's also the possibility that the terms of trade won't stay quite so favorable to Britain as they are. If world—and especially U.S.—business activity remains high, commodity prices may well rise. That in itself could worsen Britain's balance of payments, start up the dreaded, all too familiar cycle of financial crises once again.

BUSINESS ABROAD BRIEFS

The Russians are planning a super-department store in Red Square, doubtless as a showplace for Malenkov's promises of a better deal for the consumers. According to Soviet drum-beaters, there's to be some self-service, vending machines, and a total staff of 4,300.

Another trade tour to the Orient is planned, this one by the Portland (Ore.) Chamber of Commerce. Some 20 city businessmen will take a month's flying tour beginning in late October to promote a bigger share of Far East commerce for Portland.

West Germans hope to enter the transatlantic passenger ship business again. They're dickering to lease and operate the Swedish-American liner Gripsholm and the Home Lines' Italia; service may begin early next spring in time for the tourist rush.

The Comet II, souped-up version of De Havilland's Comet jetliner, made its maiden flight last week. It's the first of 12 ordered by British Overseas Airways Corp.; some of them may be used in South Atlantic service next year.



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High, high above . . . in the rarefied reaches of some rocky crag, roosts our patrician sky-pilot. Perched and pondering . . . his sharp piercing gaze images some far-off prey. Then . . . move in mind, he rides the wind — wide wings stretched in parabolic flight.

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EXPERT PACKER Jerome F. Gould stands amidst boxes ready for shipment overseas. He's president and owner of a Brooklyn firm that will pack for export anything from . . .

Big or Small, He Packs

How do you pack your goods so they'll arrive overseas in the same shape they left the plant? That's a question U. S. exporters have been trying to answer since the days of the clipper ship. And plenty of firms haven't found the answer yet: A 1950 survey by the Maritime Assn. of the Port of New York found faulty packaging the cause of 65% of the dock-to-dock damage to goods shipped out of New York.

A lot of firms, however, now think they have an answer. They are hiring specialists to do the job for them—specialists like Jerome F. Gould Corp. of Brooklyn, N. Y.

• **Service**—Gould doesn't make a thing. It sells a service: It will pack almost anything for shipment overseas. Since it was founded four years ago, its 35-year-old owner-president Jerome F. Gould says, it has done a steadily increasing volume of business. And that

volume has paid off. Last year the firm did a \$950,000 business; this year it will top the \$1-million mark.

If you use the services of Gould Corp. or an outfit like it, you send your goods directly to it from your own plant. It packs them for shipment abroad and delivers them to the dock. If it's some sort of new and complex piece of machinery, Gould will design a package; otherwise it will use the standard packaging process it's developed for that type of product. For this service, it charges a fee based on the complexities of the packaging operation, not on the value or size of the object.

• **Convenience**—Export packers like Gould say the companies using their service find it cheaper and more convenient than doing the job themselves. Expert packing means less damage and lower insurance costs. For a company to do an expert job itself, it must set



... pipe for an oil refinery being built in Turkey down to the smallest size. . .



... aircraft instrument parts like the ones here being readied for shipment.



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It to Ship Overseas

up a special department. Only if it has a big and steady export business might this pay off, say the packers. And even the big exporters can find export packers useful for special shipments of nonstandardized goods.

In addition, there's an added bonus for companies not located near a port. They can ship such things as heavy machinery to the port uncrated, save a lot in freight charges.

• **Support**—Many exporters support this view of the packers. Take Gar Wood Industries, Inc., one of Gould's biggest customers. It makes roadbuilding equipment at its Findlay, Ohio, plant. It could pack for export itself, but figures it gets a better deal by using Gould. Gar Wood loads the equipment on flatcars at Findlay and forgets about it. This way it probably saves enough on freight and labor costs to pay Gould's fee.

Quite a list of other firms have

found Gould's services to be an answer to the export packaging problem. Some of them: Westinghouse Electric Corp., General Electric Co., A. B. Dick Co., International Harvester Co., Ebasco Services, Inc., Bendix Aviation Corp., Bendix-Westinghouse Automotive Air Brake Co., and a host of smaller firms. • **Big or Little**—In trying to meet the needs of all these firms, Gould has built up a diversified operation. He has packed 48,000 lb. transformers for General Electric for shipment to India, and smaller-than-watch-spring parts for Aviation Engineering Corp.

One contract is with Ralph M. Parsons Co., of Los Angeles, which is building a \$15-million oil refinery for the Turkish government. Gould is packing all of the U.S.-supplied materials for the refinery. He gets some of the equipment directly from Parsons, some of it from Parsons subcontractors. Gould doesn't know what the whole



"The gap is closing up between cost and income. As competition gets sharper, management men are trying hard to find new corners to cut. Trouble is, the biggest part of the cost of most products is wages. And everybody knows you can't cut wages."

Who says you can't cut wages?

In most of the talk about profits these days you usually hear something like the quote above.

Well, pardon the expression, but everybody is just plain wrong.

What everybody is overlooking is that there are *two kinds* of wages in the manufacture of any product you can name. One of them has been coming down ever since Franklin flew his kite.

You've got a wage bill for the manpower that goes home every night. And you've got another wage bill for the horsepower that's always there . . . at the end of a throttle or behind a toggle switch or on the rim of a V-belt.

Are you doing all you can to cut the wages of those horses?

Or, are you trying to produce a modern product and perform a modern service with an antique power plant?

If your company is typical, in the last 15 years you've given each of your workers an extra 2 horsepower to work with. You've increased (by 30%) the effective muscle of every man you employ. But this makes it all the more important that your horses are the modern low-cost kind. You probably can reduce their feed bill if you try.

You may not be aware of the seven-league strides in efficiency made by the manufacturers of power equipment in recent years. But the editors of **POWER** magazine are. And, via the pages of **POWER**, the chances are your power engineer is.

He's the fellow, by whatever title management knows him, who buys and curries those horses and delivers them in so many forms* to your production staff.

Have you talked to him lately about cutting part of your wage bill?



One of America's
primary industrial media
and a member of
the Audit Bureau
of Circulations

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*electricity, steam, conditioned air, water, mechanical power:

shipment will consist of—he has already received pipe and electrical equipment—but says he's ready for whatever may come.

• **Variety**—At present about 60% of Gould's business is for private firms, the rest for the government.

It covers fire engines, autos, aircraft parts, electronic equipment, TV sets, machinery of all sorts. In addition he packs furniture for private citizens moving abroad; a couple of years ago he packed musical instruments for the Israel Symphony after it toured the U.S., found a cello tougher to pack than a fire engine.

• **Reverse English**—Now he has a contract with a reverse twist. Wedgwood is shipping chinaware from England in casks directly to Gould. He unpacks it, then repacks it in smaller lots and sends it to Wedgwood distributors throughout the U.S. It's a small contract, but it opens up new vistas of a two-way business to Gould—who started out four years ago on a shoestring, with no formal engineering training, but a lot of practical experience picked up during the war.

• **Learning**—Gould went to Columbia, studied to be a teacher. He never taught, was in the insurance and the theater managing business until the war. During the war he worked for the Signal Corps in a civilian capacity, inspecting equipment being made for it by contractors. He found they did all right in making the goods, but often knew little about protective packaging. As a result, in 1942, 5% of U.S. goods arriving overseas were damaged (not including damage caused by enemy action). Gould started studying better packaging methods, has been at it ever since.

He worked for two other firms right after the war, opened his own plant in 1949. The operation he handles now consists of three plants in Brooklyn—one for small parts which includes mostly women, one for medium jobs like TV sets, a third for the big stuff. His permanent employment roll is about 75, but the number reaches 100 at times.

• **Anything Goes**—Gould's outfit isn't the only export packing specialist by a long shot. There's a flock of them—mostly small—spread throughout every port in the country. But Gould figures he has at least one distinction. He'll pack anything; most of the others are specialists.

For example, Dade Bros. of Hoboken, N. J. specializes in airplanes, Aacon Contracting Co., Brooklyn, in trucks. Some other packers: Pacific Ports Industries, San Francisco; Norfolk Export Packaging Co., Hampton Roads, Va.; Lyon Van and Storage Co., Los Angeles; Lionel J. Danner, Inc., New Orleans.



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have the know-how to come up with the right answer.

Japan Snubs Chinese Coal

Low quality and high prices disenchant Japanese steel men, but trade hopes are still high . . . Validating German bonds for repayment . . . A parlez-vous for publicity.

This week, three of Japan's leading steel manufacturers canceled contracts for coal shipments from Communist China. Their reasons: low quality and high price. The action will probably bring a chorus of "I-told-you-so's" from those Westerners who look on Japan's hopes for soaring mainland trade as a pipedream. At best, it's another sign that the resumption of normal trade across the China Sea will be a bumpy business (BW—Aug. 22'53, p100).

The Japanese government, out to save dollars spent on U.S. coal, has been trying to hammer out trade deals involving coal with both China and Russia. There's been nothing but trouble. Japanese steel men want high-grade coal, and they have been getting inferior types. Moreover, the Reds are insisting on sterling settlement rather than barter, to build up their reserves for purchases in the West.

For their part, the Chinese have been grouching about the high price and limited variety of Japanese goods. Japanese businessmen who have visited China are warning their colleagues that they'd better cut prices before British and other European competitors "take over" the China market.

Despite these difficulties, Japanese are still bullish on mainland trade. Kumaichi Yamamoto, president of the China-Japan Trade Promotion Council, last month described the "new China" as "already a full-grown youth bustling with surprising vitality and energy—and with all sorts of possibilities."

bonds offered in the U.S., and which were physically outside Germany on Jan. 1, 1945. Ask the board about any others.

There are some 100,000 persons in the U.S. holding \$370-million par value of bonds. The big reason for the validation red tape is that another \$350-million or so disappeared after the Soviets occupied Berlin. Since these have begun popping up in world security markets, validation is necessary before the issuers can make some kind of repayment on the U.S.-held dollar bonds.



La vie en France . . .



. . . C'est magnifique
(Continues on page 134)

Check Your Bonds

This is the week to dig out any German dollar bonds that have been moldering in your safe deposit box. You have to get them validated before they are eligible for service and repayment under the recent London agreement on German debts. The procedure:

(1) Get instructions and registration forms from a bank, broker, or the Validation Board for German Dollar Bonds, 30 Broad St., New York.

(2) Send the bonds and registrations to the depositaries in New York. Dawes Loan, Young Loan, and Free State of Prussia Bonds go to J. P. Morgan & Co., 23 Wall St. Others go to the National City Bank of New York, 20 Exchange Pl.

The validation covers only dollar



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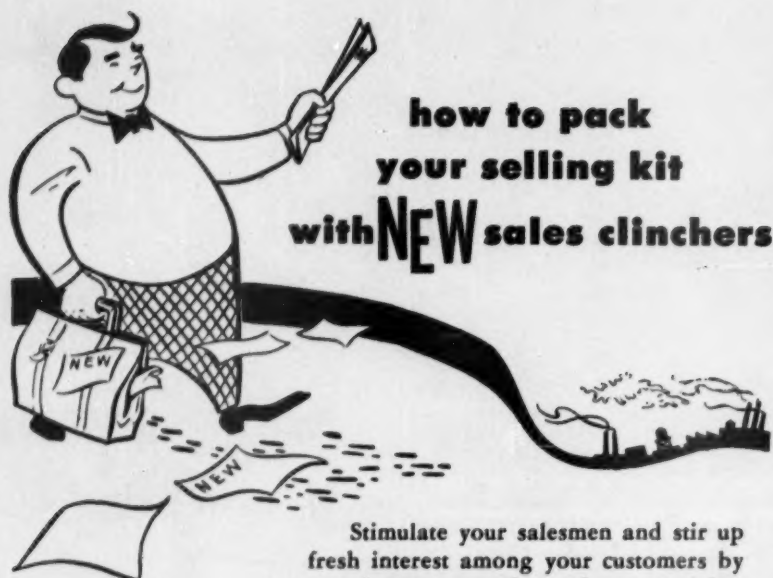
See how the designer of this tobacco processing machine has used two different Master units that are just right for his purpose . . . one, a motor with a variable speed unit and a right angle worm gear, the other a motor with a variable speed unit and a parallel shaft gear reduction unit.

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18 W. 43rd St., Room 12, Kansas City 11, Mo.

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS



... When you go SNCF

The Societe Nationale des Chemins de Fer (that's the French National Railroads) has come up with perhaps the most genteel publicity gambit of the season. That's Miss Phoebe Wilson above, practicing her French on railroad representative Francois Maillet at one of the nicer luncheon spots in New York. She's there because last month the New York SNCF office decided to stage a weekly luncheon for anyone interested in things French—the language, travel, and so on. SNCF tipped off the papers and before they knew it the railroad people were inundated with would-be lunchers.

So far there have been seven parties and SNCF plans to hold more as long as the demand holds up. Warning: You've got to speak at least a soupçon of French and expect some subtle though pleasant propaganda from the railroad men.

Bailey Bridges for U.S.

Thomas Storey, the Englishman who bought the world rights to the famous wartime Bailey Bridge, is looking for markets in the U. S.

He plans flying visits to New York, Washington, Los Angeles, San Francisco, perhaps some other cities. A prime sales target is the offshore oil drillers. Storey claims that Bailey bridging will be ideal for the access walks and platforms needed in drilling at sea. Storey also wants to sell the U. S. military, which had plenty of opportunity to use Bailey Bridges during the war in Europe.

Since then, Storey's firm, Thos. Storey (Engineers) Ltd., Stockport, England, has built up a \$2.8-million-a-year export business in Bailey bridging. Canada has been a good market, using the bridging in big hydro projects, tunnels, mines, and temporary office construction.

Strength and easy handling are Storey's selling points. Labor presents no problem—the bridging is prefabricated, pinjointed, along the lines of the Erector toys.

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INTERNATIONAL OUTLOOK

BUSINESS WEEK

SEPT. 5, 1953



There will be a bitter diplomatic struggle between Washington and Moscow in the coming months.

It will be part of the process of liquidating the cold war—with Moscow aiming to ease East-West tension but to gain all the advantages it can in doing so.

The big issues will be Germany's role in Europe and Red China's in Asia. On both, Moscow and Washington are still poles apart. But there will have to be some kind of agreement in the next year or two if tension is not to revive again.

There's not much doubt that Moscow is still pursuing the new course adopted after Stalin died. But the Kremlin's tactics have changed since spring.

At that time the new Soviet rulers seemed anxious to jump at Sir Winston Churchill's suggestion for a top-level meeting to tackle all big world issues in a hurry.

Now that it's clear the U. S. won't buy this approach, Moscow apparently wants to stall for a while, hoping for a split between the U. S. and Britain and France.

For example, it's doubtful if Moscow will accept this week's Western bid for an October foreign ministers' meeting on Germany and Austria.

So the Russians may drag their feet until late in the fall, counting on the Korean political conference to bog down.

At that point they may demand a Big Five World Peace Conference, which would deal with both Europe and the Far East.

It's clear enough what Moscow's game is. Assuming Adenauer doesn't lose the Sept. 6 election in West Germany, any German settlement now would have to be on U. S. terms. Free elections would come first and then an all-German government would have the right to integrate itself with Western Europe.

But Moscow aims at an agreement that would, in effect, neutralize a united Germany. And the Russians know that there is widespread support for this in Britain and France.

By stalling long enough, they probably figure they can get Britain and France close to their position. Russian chances would be especially good if a stalemate develops over Korea, threatening a revival of the fighting there.

The Russian game won't work, of course, if U. S. diplomacy is flexible enough to keep the West pulling together.

Pressure is growing in British and West European business circles to lift the bars against East-West trade.

Many businessmen across the Atlantic now feel that Russia is really eager for trade and isn't talking it up just for propaganda purposes.

According to European traders who have been dicker with Moscow, the new Soviet attitude shows up in two ways:

- Russian negotiators aren't haggling over every detail as they used to.
- They are placing orders for an even wider variety of merchandise.

In Britain, Moscow is not only asking tenders for such items as cargo

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

SEPT. 5, 1953

ships, fishing trawlers, diesel generators, hydraulic presses, and power cable, but also for woolen and synthetic textiles.

So far the British government has refused export licenses for ships, generators, presses, and many other hard goods. But British business is complaining that Continental countries will supply these things if Britain doesn't.

A turbulent time lies ahead for France as the many-sided crisis in that country mounts in intensity.

Labor troubles are bound to come to a head soon, probably this month.

Foreign policy clashes will break into the open soon after the National Assembly reconvenes Oct. 12.

It will be a miracle if the Laniel government lasts out the year.

The recent strike wave in France was merely the first round in labor's drive to get a general wage boost and to enhance its political position.

The government is dead set against any across-the-board increase. It fears that this would set off an inflationary spiral.

So Laniel will try to head off labor's demands by (1) forcing down the prices of such necessities as food and clothing by 5% to 10%, and (2) granting some pay increase to the lower paid workers.

But there's no guarantee that French labor will be satisfied even if prices fall. More strikes are a real possibility.

The French National Assembly is scheduled to debate Indo-China and the European Defense Community as soon as it reconvenes.

These questions will bring on the kind of parliamentary battles that could easily upset Laniel.

There is a powerful group that favors a settlement in Indo-China at almost any price. And there's no sign that parliamentary opposition to EDC is on the wane. (Of course, if Adenauer should lose the Sept. 6 elections in West Germany, EDC would be a dead issue.)

Washington is putting together an emergency aid program for Iran. It may amount to about \$50-million—to take care of Iran's most pressing financial needs over the next six months.

It looks as if the money will be an outright grant of foreign aid funds scraped up in answer to Premier Zahedi's urgent appeal for help.

The amount of aid is not definite yet. It may go up or down, depending on last minute consultations with the Iranians.

The British believe that the U.S. is pampering Iran too much, might encourage Zahedi to stall an oil agreement.

But the U.S. State Dept. has deliberately favored a higher figure to weaken the opposition to Zahedi in case he manages to make a deal with the British on oil. State doesn't want to give Zahedi's critics any ground for accusing him of selling out cheaply to the West.

In fact, State would prefer to see Zahedi stall an oil agreement for several months to avoid such criticism and to make sure he has the country under control.

SIX INDUSTRIAL PUMPING PROBLEMS Solved by the MOYNO Pump!

Looking for a pump with a fast-growing reputation for solving tough pumping problems? Then take a look at the simple, versatile Moyno!

Briefly described here are a few of the many successful case histories proving how Moynos handle jobs where other pumps fail. Why is the Moyno a "problem-solving" pump? For one thing, because it differs completely from conventional pumps... rotary, centrifugal or piston. Just one rugged moving part—a rotor turning within a stator—does the job.

The list of materials handled by Moyno Pumps gets longer every day. If you have a pumping problem, such as handling abrasive slurries, mild acids, caustics, materials that are watery, viscous or even semi-solid—find out if the Moyno can help you! Use the coupon below for prompt, complete information.

1 Material: Chromic Acid.

Problem: Material hard on pumps—being slightly corrosive and abrasive.

Solution: Moyno pump on duty for the past two years; has required practically no maintenance. Customer very well pleased.

2 Material: Quarried Clay.

Problem: 40 to 60% loss of clay slurry.

Solution: Moyno pump in use for the past 2 years has reduced above production losses to average of less than 5%.

3 Material: Calcium Carbonate Slurry.

Problem: Continuous failures of centrifugal pumps.

Solution: Moyno pump still giving perfect service after 1½ years of 24-hour-per-day operation.

4 Material: Special Navy Paint Mixture.

Problem: Low volume of gear-type pump; necessity for pre-heating paint before pumping into tank cars.

Solution: Moyno cut tank car filling time from 10 hours to 2½ hours. No need to pre-heat paint. No maintenance costs since Moyno was installed 2 years ago!

5 Material: Caustic Solution—for use in mercerizing machines.

Problem: Rotary pumps wore quickly, lost capacity, and had too little suction.

Solution: Moyno pumps cut maintenance and repairs to minimum—had ample suction for drawing caustic through the cloth.

6 Material: Anti-Scale Boiler Treatment (alcohols, oils, anti-foam agents, sludge conditioners).

Problem: Frequent pump breakdowns caused by back pressure of 5 spray nozzles.

Solution: Moyno pumps cut pumping time from 20 minutes to 3 minutes and also reduced down time. Both helped to increase production 200%!

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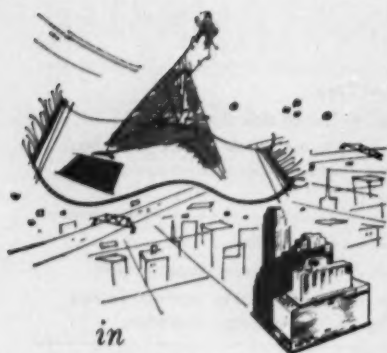
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THE MARKETS



Upgrading Pays Out

Blue chip stocks have shown up better than low-price issues in 1953, despite numerous exceptions.

At the end of 1952, some very savvy Wall Street people were dishing out advice that sounded awfully stodgy.

The postelection rally was still bubbling merrily. But such experts as Moody's Stock Survey, Standard & Poor's weekly Outlook, and various smart brokers took a cautious view of the prospects. All of them had the same message: "Don't gamble. In any strong markets that lie ahead, upgrade the investment quality of your common stock holdings."

In support, the doubters reminded all and sundry that low-price fast-moving speculative stocks may go up faster than conservative issues in a time of swift rise, but they also come down faster.

• **Still Close**—And in retrospect, the "stodgy" advice was very shrewd indeed, though the pudding took a few weeks to prove.

Take a look at the chart above. It shows that, despite all the weakness of this year's market, the high-grade commons as a group were quite recently pretty close to their 1952 year-end levels. The low-price shares, on the contrary, had frittered away early-1953 gains of 9% and showed an over-all loss of about 7.5%.

The picture is even clearer if you look at the compilation on page 142, which traces in detail the 1953 movements of 40 low-price issues and 15 investment-grade commons. You will see two things:

• The speculative issues show losses for the year ranging from 17.4% to as high as 47.4%.

• The blue chips show gains up to 8.1%, and only a few losses—none worse than 3.4%.

Of course, this doesn't necessarily mean that all "good" stocks are still up on the year, nor that all speculative issues are showing tremendous losses. In fact, many blue chips definitely felt the severe sell-off on Monday of this week (page 17). It's no trick at all to find substantial issues that show 1953 losses up to 25%, and more. It's also easy enough to find some issues, in or near the cat-and-dog category, that haven't done badly at all.

Just the same, no matter how many the exceptions, the upgrade-while-you-can advice retains all its soundness.

• **Transition**—Most Wall Streeters expect a transition from the long boom to a more normal type of economy, to one where business will face more competition than it has since before World War



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BUSINESS WEEK

330 West 42nd St., N. Y. 36, N. Y.

II. It's true that this new period, even
at its lowest ebb, may find business still
enjoying levels of prosperity unknown
until recent years. But managements
will be facing many problems; com-
petition will be much rougher for some

than for others. Some corporations
will fail to adjust to the new realities.

That's why veteran Streeters are tell-
ing investors to hold stocks in sound,
well-managed companies, rather than
in untried or fringe concerns.

When the Market Is Shaky . . .

Low-price Commons Always Drop Faster . . .

	1952 Yearend	1953 Range High Low	Recent Level	Recent Level vs. 1953 High 1952 Yearend
Alleghany Corp.	\$5.25	\$5.37 \$3.37	\$3.37	-37.2% -35.8%
American Bosch.	11.87	12.25 6.25	6.25	-49.0 -47.4
APW Products.	5.50	5.50 3.37	3.37	-29.7 -29.7
Artloom Carpet.	9.12	10.50 7.00	7.00	-33.3 -23.3
Avco Manufacturing.	7.87	8.75 5.50	5.50	-37.1 -30.1
Binguet Mining.	1.50	1.75 1.12	1.12	-36.0 -25.3
Braniff Airways.	10.12	11.87 7.12	7.12	-40.0 -29.6
Butte Copper.	9.25	12.37 7.00	7.12	-42.4 -23.0
Callahan Zinc.	2.12	3.12 1.75	1.75	-43.9 -17.5
Calvan Consolidated Oil & Gas.	6.62	6.87 4.00	4.00	-41.8 -39.9
Childs Co.	2.87	3.75 2.25	2.25	-40.0 -21.6
Clopay Corp.	3.87	5.00 2.50	2.50	-50.0 -35.4
Consolidated Retail Stores.	9.50	10.75 7.50	7.50	-30.2 -21.1
Curtis Publishing.	7.50	9.62 5.87	5.87	-39.0 -21.7
Davega Stores.	7.87	8.62 6.25	6.50	-24.6 -17.4
Detroit-Michigan Stove.	6.12	6.75 3.50	3.50	-48.2 -42.8
Dumont Laboratories "A".	16.00	17.75 11.75	12.00	-32.4 -25.0
Duplan Corp.	12.50	12.75 8.12	8.12	-36.3 -35.0
Federal Fawick Corp.	6.25	7.75 4.50	4.50	-41.9 -28.0
Flying Tiger Line.	10.25	10.75 7.00	7.12	-33.8 -30.5
Gar Wood Industries.	6.75	7.50 4.25	4.25	-43.3 -37.0
Glen Alden Coal.	10.12	11.62 6.87	6.87	-40.9 -32.1
Graham-Paige Corp.	2.25	2.75 1.50	1.50	-45.5 -33.3
Hudson Motor Car.	17.00	17.00 11.00	11.25	-33.8 -33.8
Hupp Corp.	4.62	5.37 2.75	2.75	-48.8 -40.5
M. & M. Wood Working Corp.	11.12	12.00 8.62	8.62	-28.2 -22.5
Maracaibo Oil Exploration.	8.75	11.00 7.00	7.00	-36.4 -20.0
Muntz TV, Inc.	4.50	4.62 2.62	2.62	-43.3 -41.8
Noma Electric.	14.00	15.00 8.25	8.25	-45.0 -41.1
Pacific Petroleum.	12.25	13.62 6.87	7.50	-44.9 -38.8
Raytheon Manufacturing.	12.50	14.62 9.25	9.25	-36.7 -26.0
Reynolds Spring.	6.87	9.87 5.00	5.00	-49.3 -27.2
Ronson Art Metal Works.	9.25	10.37 7.00	7.12	-31.3 -23.0
Servel, Inc.	13.00	14.37 8.50	8.50	-40.9 -34.6
Shattuck Denn Mining.	7.25	8.12 4.62	4.62	-43.1 -36.3
Textron, Inc.	11.87	12.37 9.12	9.12	-26.3 -23.2
Thompson-Starrett.	3.00	3.12 2.12	2.12	-32.0 -29.3
United Wallpaper.	3.12	4.00 1.87	1.87	-53.2 -40.1
Walworth Company.	8.25	9.00 6.00	6.00	-33.3 -27.3
White Sewing Machine.	11.25	12.62 7.87	7.87	-37.6 -30.0

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American Telephone & Telegraph.	\$159.37	\$161.25	\$152.12	\$154.00	- 4.5%	- 3.4%
Borden Company.	52.75	58.50	52.50	57.00	- 2.6	+ 8.1
Commonwealth Edison.	34.62	37.37	32.12	34.50	- 7.7	- 0.3
Consolidated Edison of New York.	38.62	40.62	34.75	39.25	- 3.4	+ 1.6
Corn Products Refining.	69.50	73.75	67.12	71.00	- 3.7	+ 2.2
Eastman Kodak.	44.75	47.00	41.62	43.25	- 8.0	- 3.4
General Foods.	53.37	56.75	50.87	54.00	- 4.8	+ 1.2
International Business Machines.	235.25	254.50	224.00	238.00	- 6.5	+ 1.2
International Shoe.	38.75	40.87	38.25	39.50	- 3.4	+ 1.9
Liggett & Myers.	73.87	82.00	74.00	74.50	- 9.1	+ 0.9
National Biscuit Co.	35.50	38.00	34.62	35.12	- 7.6	- 1.1
J. C. Penney Company.	69.00	73.50	65.75	69.12	- 6.0	+ 0.2
Pet Milk Company.	40.12	43.00	38.75	40.00	- 7.0	- 0.3
Swift & Co.	35.50	39.75	35.37	38.00	- 4.4	+ 7.0
Wm. Wrigley Jr. Co.	71.75	76.00	71.25	73.00	- 3.9	+ 1.7



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BRITONS CAN HAVE PROSPERITY — If They Want It

What is required to get Britain, our key ally in the grand alliance of the free world, firmly back on her economic feet? The purpose of this message is to throw light on this crucial problem, which afflicts our other European allies also.

At the moment, Britain is enjoying a respite from the economic crises (of 1947, 1949 and 1951-52) which have plagued her post-war course. This respite may well continue for some time. But almost no one whose judgment is trustworthy believes that Britain has acquired sufficient economic strength to safeguard her against further economic crises in the years immediately ahead.

Two British Views

New and clear light on what should be done to that end has recently been shed by two noteworthy British publications. One is a book, "We Too Can Prosper," by Graham Hutton, distinguished British economic writer and administrator. The other is an article, "The Riddle of Prosperity," published by THE (London) ECONOMIST, Europe's most eminent economic journal.

Combined, these two publications present

in sharp relief the basic problem that must be handled successfully if Britain is to be safely solvent. As is implied by its title, *the Hutton book demonstrates that Britain can be made prosperous by readily feasible procedures, patterned on what has been done in the United States, to increase its industrial efficiency. But, says THE ECONOMIST, with Mr. Hutton's book in mind, this is not the most basic problem, which is, "How shall we make the British people determined to be prosperous?"* This is a problem of incentive or motivation.

Compared with that of the United States, average industrial efficiency in Britain, as in most of Western Europe, is low. In his book Mr. Hutton remarks that "fifty years ago an American industrial worker turned out roughly the same amount in a day as his opposite number in Britain, Germany or France. . . . Today, he turns out from two to five times as much."

In large part it is this lag in output per hour or "productivity," as the technicians call it, which makes Britain and other key countries in Western Europe a continuing prey to economic crises. Moreover, the great disparity in productivity between the U.S.A. and most

of Western Europe is a major barrier to knitting the free world into a smoothly working economic whole. As one observer put it, "when the American economy catches a cold, the European economy gets pneumonia." This is largely because Europe is so much weaker in productive strength.

No Shortage of Knowledge

Yet the knowledge which would enable the countries of Western Europe, and particularly Britain, to increase their industrial productivity has been mobilized and is readily available to them. It is with this process for Britain that Mr. Hutton's book is concerned. In the book he summarizes the findings and conclusions, virtually all of them unanimous, of 66 teams, composed of British industrial managers, technicians, shop workers and labor leaders. Over a period of three years these teams completed a comprehensive series of inspection and study trips in the United States under the sponsorship of the Anglo-American Council on Productivity. The product of that effort, he remarks, is "a set of documents the like of which, on such a scale and of such practical value, has never been seen in the history of international and cultural borrowing."

Psychology the Key

From study of these documents, Mr. Hutton concludes that better capital equipment is the key technical ingredient of higher industrial productivity in Britain, and constitutes "the most urgent . . . need of British industry." But he finds that *even without new capital equipment a "15% rise in productivity can still be achieved by reorganization of work," and that such an increase would "solve Britain's chief social and economic problems."*

Then why is not such an increase in productivity, demonstrated by the Anglo-American

productivity teams to be so clearly within technical grasp, promptly forthcoming? Mr. Hutton, quoting one of the team reports, remarks that, "*the greatest obstacles to increased productivity are psychological rather than technical.*" We have to deal first and foremost with men, not machines." And THE ECONOMIST, pursuing the line of inquiry suggested, reaches the conclusion that, by and large, the people of Britain do not want to prosper by being more efficient. THE ECONOMIST says:

"The real secret of American productivity is that American society is imbued through and through with the desirability, the rightness, the morality of production. . . . But in Britain, if any moral feeling at all survives about economic matters, it is usually a vague suspicion that economic success is reprehensible and unworthy. From this difference in attitudes everything else follows."

"How," asks THE ECONOMIST, "*shall we set about restoring some belief in the rightness of effort, the morality of success?*" For this question it has no ready answer. Neither have we. We are confident that the British people will neither be cajoled nor coerced into trying to match our productivity. Basically the problem seems to be to demonstrate clearly to them the truth of the proposition, set down by Graham Hutton, that "there is no goal, aim or end before a Good Society which the raising of that society's material productivity cannot render easier of achievement." Doing that in an old and settled country like Britain is obviously an extremely formidable undertaking. But *until it is done, the crucial job of getting Britain and the rest of Western Europe firmly on its economic feet will remain to torment all of us.*

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LABOR

New Look Coming for NLRB

● Administration now has two members with its leave-it-to-states views, will soon have majority.

● How far and fast the shift will go in labor law rulings depends on tussle over third appointment.

● What new board majority does may decide how far Congress goes next year in revising Taft-Hartley.

The National Labor Relations Board is getting a new look—and, perhaps, new, more conservative basic policies to go along with it.

Philip Ray Rodgers, an appointee of President Eisenhower, was sworn in last week as an NLRB member, succeeding John M. Houston, who resigned. Guy Farmer, another Eisenhower man, took over the NLRB chairmanship a month ago. A third member, possibly Lawrence E. Gooding, from Wisconsin, will be named soon to replace Paul L. Styles.

When the third appointment comes through, the Administration—and the party that enacted the Taft-Hartley act—will have a 3-to-2 majority on the board that interprets and enforces the labor law. A six-year cause of irritation among T-H supporters will be cleared up.

• **Protests**—For years, Taft-Hartley advocates protested the interpretation and enforcement of the law by appointees of an Administration that opposed T-H. They charged that NLRB members “obviously” were disregarding the intent of Congress and were interpreting the law, loosely, in a pro-labor way.

As often as not, the charges had this basis: NLRB members were, by and large, Democrats, and their decisions—no matter how sincere or well-based—were therefore suspect.

No matter how the new majority decides cases—even if it supports past NLRB policies—it won’t have this handicap. So the protest, and the wariness of the board, should die down quickly.

• **Some Changes**—It’s quite probable, though, that the change in the board majority is going to mean some changes in basic policies. Farmer indicated that in a significant speech before the American Bar Assn. Rodgers—former Republican staff director of the Senate Labor & Public Welfare Committee—apparently feels the same way.

Farmer told the association that

some old NLRB rules might be thrown overboard. NLRB is about to go through a readjustment period, he said, during which “policies and principles” will undergo “scrutiny and re-examination.”

Rodgers, in accepting board appointment, promised: “I propose to carry out this law, not as it once was, not as some wish it to be, but as it is.” And he added: “If any individual or group feels that this act requires modification, let him look to the Congress . . . to effect those modifications, and not to this agency.”

The Rodgers words are important for their implications. Critics of NLRB in the past have accused it of trying to give a pro-labor Wagner act interpretation to the successor Taft-Hartley act, or to “amend” T-H by administrative decisions.

Meanwhile, Farmer’s first actions on the board spoke even more firmly than his words.

• **Dissents**—Farmer consistently expressed a dissenting view in cases before the board during his first month as chairman. His latest dissent, involving the board’s jurisdiction over retailers of new automobiles, is typical.

NLRB first ruled in November, 1950, that retailers of new automobiles were engaged in commerce under the meaning of the T-H act, and therefore were within the board’s jurisdiction. The issue came before NLRB again in a case involving a Wisconsin garage operator. The majority held the employer guilty of interfering with garage workers’ rights to organize a union. Farmer’s dissent disagreed with NLRB’s right to take jurisdiction.

Reflecting the Administration’s leave-it-to-the-states policy, Farmer’s minority report pointed out that Wisconsin has adequate machinery for dealing with the local garage employer-employee relationship. He urged “administrative self-restraint” within NLRB, leaving minor issues to the states and concentrating on truly national affairs.

The board majority took note of the dissent and its implications. They said the administrative self-restraint urged by Farmer would require a revision of the board’s jurisdictional policy—“A reasonably definite yardstick for industry and labor [that] has received general acceptance.”

With the new board majority shifting behind Farmer, such a revision may be assumed to be on its way.

• **Other Issues**—There is little doubt, too, that rules for complying with the T-H section on unfair labor practices, secondary boycotts, and elections administered by NLRB are also due to be changed. Just how much will depend a lot on the outcome of a tussle now going on behind-scenes in Washington over the third Eisenhower appointment.

Republicans want the President to name Gooding, chairman of the Wisconsin Employment Relations Board for the past 12 years. His views would dovetail neatly into those of Farmer and Rodgers. However, Gooding hasn’t been able to get the approval of Secretary of Labor Martin Durkin.

The reason: AFL leaders in Wisconsin object to Gooding’s record on the state board, and Durkin—recently roundly criticized by AFL colleagues in Wisconsin for defending the Eisenhower Administration—doesn’t want to alienate them further.

If Farmer and Rodgers get Gooding as a teammate, changes will come rather smoothly and go deeper. More disputes having little effect on interstate commerce, for instance, will be left to handling by the states.

If Eisenhower picks, instead, someone who will lean more toward the views of the two holdover members—Abe Murdock, former New Deal senator for Utah, and Ivar H. Peterson, former assistant to Sen. Wayne L. Morse—the changes will be slower and tougher to make and probably less consequential.

What the revamped NLRB does may very well have an effect on efforts to revise the Taft-Hartley act next year. It may be the deciding factor on whether there is any revision at all by Congress or, if there is, just how far Congress will go.

Incidentally, the lineup Eisenhower makes may have to stand for the duration of his Administration because Peterson’s term does not expire until August, 1956, and Murdock’s a year later.



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Alabama Outlaws Union Shop

New law stirs unions to legal and political action, points up David McDonald's proposals in Washington for increasing emphasis on state politics in CIO.

Alabama's Gov. Gordon Persons last week signed into law a bitterly disputed bill outlawing any contract clause making union membership a condition of employment. His approval of the bill "because I believe in free labor and free enterprise" immediately injected a strong labor issue into the state's politics.

The so-called "right to work" bill, patterned after Virginia's law banning compulsory unionism, ran into heavy opposition in the Alabama legislature. A series of filibusters by legislators from industrial centers sought unsuccessfully to keep it bottled up. Former Gov. James E. Folsom, a favorite with Alabama labor, urged its defeat. But first the House and then the Senate approved the bill by impressive majorities.

• **Attack Strategy**—Alabama unions immediately announced plans for a doublebarreled attack on the law—the fourteenth in the country outlawing the union shop and similar union security arrangements. They said they will fight:

• In the courts, to have the new law declared unconstitutional.

• Politically, in 1954, for a state administration committed to repeal the "right to work" law. Significantly, Folsom is a certain candidate for the Alabama governorship next year.

Since Virginia's pattern-making law has survived U. S. Supreme Court tests, nobody in labor is putting much faith in efforts to have courts nullify the Alabama law. So the real emphasis is likely to be on efforts to kill it through intense political action in 1954.

• **Switching the Stress**—Under the circumstances, recent suggestions on political strategy made by David J. McDonald, president of the United Steelworkers, at a CIO gathering in Washington take on added significance. USW is strong in Alabama, where it represents all but a few steel and iron workers in Birmingham, Gadsden, and smaller production centers. Because of its union-shop contracts, the union could be one of the hardest hit in the state under the new law.

McDonald took issue with CIO's policy of placing heavy emphasis on efforts to elect a "friendly" Congress. He said he has "given up the thought that a millennium is just around the corner." Instead of continuing to pour money and manpower into the fight for federal legislation, McDonald said, it might be "more effective and more

practical" to concentrate for a while on city and state levels.

The steelworkers' president caused some eyebrow-lifting because, as he readily agreed, his suggestion was "diametrically opposed to the program (CIO) has advocated through the years." Moreover, it veered sharply away from CIO president Walter Reuther's bold and expansive views of labor's role in politics.

Against the background of the Alabama situation, McDonald's suggestion looks like more than just another pronouncement in the USW leader's war of nerves against his rival from the auto union. It could turn out to be a serious bid for a shift in CIO orientation—to emphasis on state political action.

• **Realistic**—Other CIO leaders see merit in McDonald's proposal, pointing out that more labor legislation comes up in state legislatures than in Washington these days (BW-Jul. 25 '53, p56), and that under the Eisenhower Administration states will be encouraged to step even further into the labor law field.

They say, too, that it's easier to interest the individual worker in state issues that apply to him personally than in federal issues.

Alabama steelworkers, for example, objected so strongly to what they called "antilabor action" by the legislature and governor that protest strikes in Birmingham and Gadsden appeared imminent. Union leaders had to restrain rank-and-filers against moves that might jeopardize "good contracts, and possibly better ones next year."

Efforts supported by union memberships got underway immediately to raise funds for "a new deal" in state politics in 1954. Previous appeals for contributions to CIO's Political Action Committee, with its broad national program, drew only lackadaisical response.

• **Boon**—While the "right to work" law is strongly opposed by labor, it might be a boon for a few unions seeking to organize Alabama state, county, and municipal employees.

The law specifies that "the right of a person to work shall not be denied or abridged on account of membership or nonmembership in any labor union." The state and a number of Alabama cities have fought efforts to unionize their employees. Some have been fired, unions say, for union activities.

Unions organizing government workers announced that they will use the new "policy of the State of Alabama" in drives for public employees.

What's Happening to the Cost of Living

	Total Cost of Living		Food 1947-49 = 100	Clothing 1947-49 = 100	Housing 1947-49 = 100	
	1947-49 = 100	1935-39 = 100			Total	Rent Only
July, 1947	95.0	158.8	95.6	96.5	94.1	93.4
July, 1948	104.3	174.4	107.3	103.0	101.8	100.6
July, 1949	101.4	169.6	99.9	98.5	102.7	105.0
July, 1950	102.9	172.0	103.1	96.4	105.3	109.1
July, 1951	110.9	185.5	112.7	106.3	112.6	113.1
July, 1952	114.1	190.8	116.3	105.3	114.4	117.9
August	114.3	191.1	116.6	105.1	114.6	118.2
September	114.1	190.8	115.4	105.8	114.8	118.3
October	114.2	190.9	115.0	105.6	115.2	118.8
November	114.3	191.1	115.0	105.2	115.7	119.5
December	114.1	190.7	113.8	105.1	116.4	120.7
January, 1953	113.9	190.4	113.1	104.6	116.4	121.1
February	113.4	189.6	111.5	104.6	116.6	121.5
March	113.6	189.9	111.7	104.7	116.8	121.7
April	113.7	190.1	111.5	104.6	117.0	122.1
May	114.0	190.6	112.1	104.7	117.1	123.0
June	114.5	191.4	113.7	104.6	117.4	123.3
July, 1953	114.7	191.8	113.8	104.4	117.8	123.8

Source: U. S. Bureau of Labor Statistics.

BLS index is now on a revised basis. It is linked to the interim-adjusted index for December, 1952, to form a continuous series (1) in terms of 1947-49=100, and (2) using a 1935-39=100 base. The former (1) is the fully-revised index BLS plans to continue beyond 1953. BLS issued its unrevised "old" index through the first six months of 1953, for those having escrow contracts.

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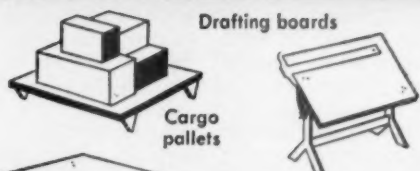
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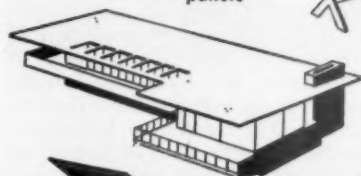
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COMPARISON of reserves available with unemployment benefits paid out in the 12 months ending Mar. 31, 1953, shows . . .

Why Labor Wants More Job Insurance

Seventeen states passed laws this year liberalizing their unemployment-insurance benefits. The other 31 are in for hard prodding by labor organizations to go and do likewise.

With Korean fighting stopped and defense spending headed downhill, labor leaders are getting nervous about job security. Near the top of their list of things to go after are higher unemployment benefits and a guaranteed annual wage.

CIO Auto Workers' president Walter Reuther bore down on Michigan with a letter to Gov. G. Mennen Williams urging him to call a special session of the legislature to amend the state's unemployment insurance law. Reuther wants higher benefits over a longer period.

The fire at General Motors' Livonia (Mich.) plant (BW—Aug. 22 '53, p. 28) gave Reuther his cue. The disaster not only wiped out jobs at Livonia but also will result in layoffs of thousands more in other plants because of the unavailability of transmissions that were made at Livonia.

• **In Congress**—Other labor leaders, with other layoff problems, will follow Reuther's lead. The result will be

growing pressure, not only on the states, but also on federal lawmakers to revise the entire federal employment-security program next year. The Reed bill, introduced by Republicans at the last session of Congress and still pending, provides for only minor changes; labor's interest—and demands—will center on a measure to make major changes in benefits and coverage that have been advocated by the Roosevelt and Truman Administrations since 1939.

The Reed bill reflects the strong desire of the Republican Administration to leave state-by-state administration of the program pretty much as it is. Since unemployment insurance is a state-federal affair, it is a top target for the demand to reduce federal control of state activities.

• **Joint System**—Each state has its own unemployment insurance law now and operates its own program. But the federal government helps out with grants—and with these grants go conditions. For example, payments must be made only to workers whose previous employment qualifies them; and, on the other hand, a worker must not be deprived of benefits just because he turns down employment that doesn't

meet certain minimum labor standards.

Both federal and state governments tax the employer to finance the insurance program but employers get credit on their federal tax (up to 90% of it) for what they've paid in state taxes. In Alabama and New Jersey, employees are taxed, too.

• **Pro and Con**—State administrators of unemployment insurance like the Reed bill. It gives them, if anything, a little more say as to how the tax money is to be spent. But labor organizations won't go along with the bill unless it's amended. The Eisenhower Administration itself objects to some features of the original bill, and hasn't indicated yet whether it will support the bill or advocate changes if and when the measure is considered on Capitol Hill.

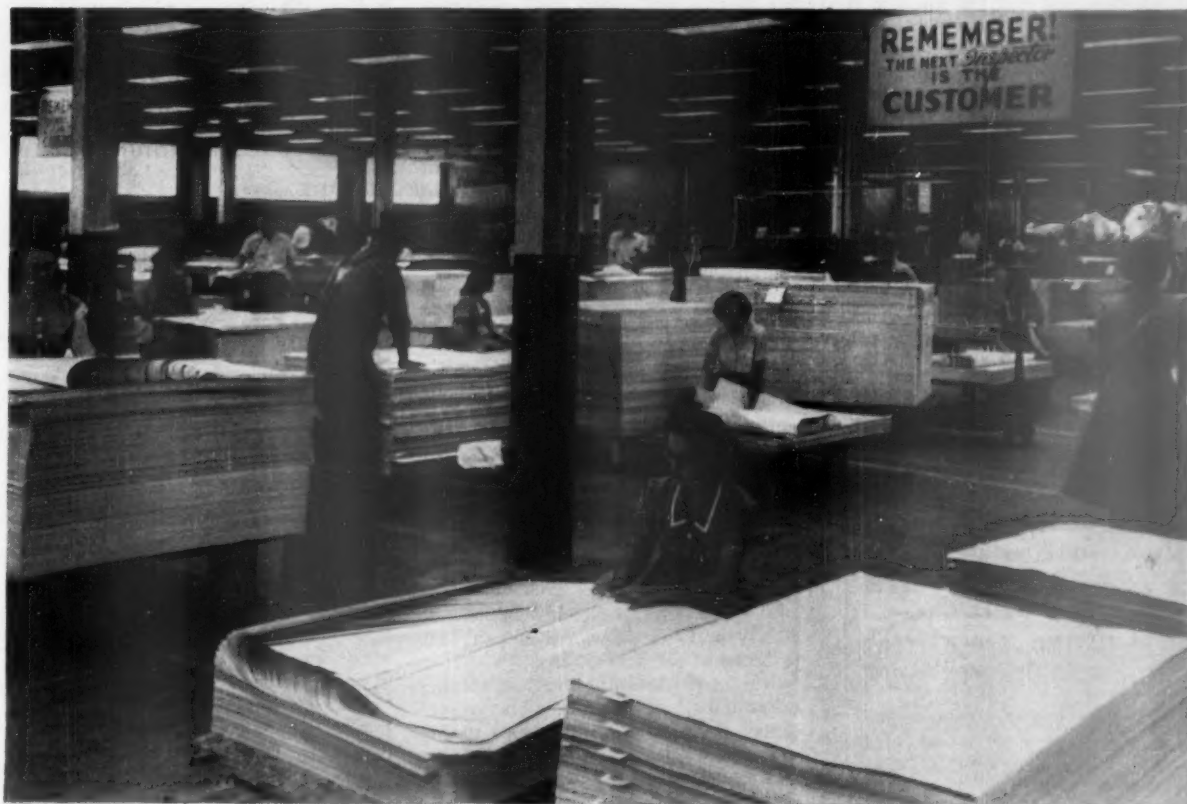
• **How?**—Representatives of employers, employees, and the public seem agreed that the present unemployment-insurance program would stumble under an increased load. But everyone has a different opinion on what to do to bolster it.

The trouble is, national figures don't look bad. At the end of 1952, the unemployment reserves for all states totaled over \$8-billion. This represented

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"Values"—is the classified advertising section of BUSINESS WEEK. Write for information.

8.8% of the taxable payroll of all persons covered by insurance. But overall figures are misleading because each state's reserves, contributions, and benefits are entirely separate.

• **Variable**—Rhode Island's reserves, for instance, were equivalent to only 3.9% of payrolls as compared with 14% for Montana. And Rhode Island's benefits averaged 3.1% of payroll in the seven years from 1946 to 1952. In 1949, they were 6.2%.

In other words, if Rhode Island were hit with serious unemployment, its present reserves could be dangerously close to exhaustion within a year. Montana probably would be able to pay benefits indefinitely without any serious danger and could even liberalize benefits.

The contrast holds true in other cases, and the reason is this: Some states have high costs, some low; some states pay higher benefits than others. The result is over-financed programs in some states, while those in others are in a poor financial condition and cannot increase their benefits without raising contributions or endangering their long-run solvency.

• **Latest**—Here are some of the latest facts about benefits:

• The average weekly benefit amount (\$22.79) in 1952 was only about 34% of the average weekly wage. It was less than 30% in 11 states.

• The maximum weekly benefit amount in 1952 ranged among the states from 25% to 64% of the average weekly wage; 33 states came in the 35% to 45% bracket.

• In 1952, most benefit payments were at the maximum weekly amount payable under state laws.

• The average weekly benefit of \$22.79 in 1952 was worth only \$12.01 in terms of 1935-39 dollars.

• In 1952, nearly a million persons exhausted their benefits. This represented over 20% of all persons receiving benefits in 1952.

• **Recommended**—During the 80th Congress a social security advisory council appointed by Republican Sen. Millikin and made up of 17 highly placed representatives of business, labor, insurance companies, and the public unanimously agreed that benefits were generally too low in relation to wages. That was in 1948. Today, despite some improvements in state laws, the relationship of benefit amounts to wages is roughly the same.

The council pointed out that the higher unemployment benefits are in proportion to the wages lost, the more effective job insurance is in bolstering the purchasing power of unemployed persons to avoid pyramiding unemployment.

• **Fitting In**—Labor's new push for higher unemployment benefits brings

up another question in industry's mind: How are union demands for a guaranteed annual wage going to fit in with the unemployment insurance system?

Experts think it is possible to coordinate a guaranteed annual wage with unemployment insurance. Companies faced with annual-wage demands will take some consolation in this.

It's doubtful that the present unemployment-insurance system can or will be revised so as to halt completely the movement for a guaranteed annual wage. But improved unemployment benefits will be a good talking point for putting limits on management's wage guarantee.

No Protection

Government tries to collect from Walsh-Healey violators despite the statute of limitations.

A two-year statute of limitations may not protect government contractors from liability for old Walsh-Healey act violations after all. Many breathed easier when, last March, the Supreme Court ruled against the government in a key suit for damages. Now, it looks as though the contractor who won his case may still lose the money the government assessed as damages.

• **Suit for \$15,600**—The government sued Unexcelled Chemical Co. for \$15,600 for an alleged series of Walsh-Healey act violations on government-contract work during World War II. The Supreme Court got the case on an appeal, and decided that a two-year statute of limitations barred the legal action based on violations that occurred five years earlier.

The decision rocked Labor Dept. lawyers and enforcement officers; they contended that under present investigation policies it is impractical—if not impossible—in a two-year period to uncover and prosecute violations of rules covering minimum pay, maximum hours, and child labor.

Just when the Labor Dept.'s enforcement officers seemingly were up against a blank wall, the Unexcelled case took a new twist.

• **Funds Withheld**—The Comptroller General announced that he will not return \$15,600 withheld by the government from payments due Unexcelled on a later contract. The money is due the government because of the World War II violations of Walsh-Healey requirements, he said; while court action to recover it may be barred by a two-year statute of limitations, there is no legal bar against the government's withholding the amount of

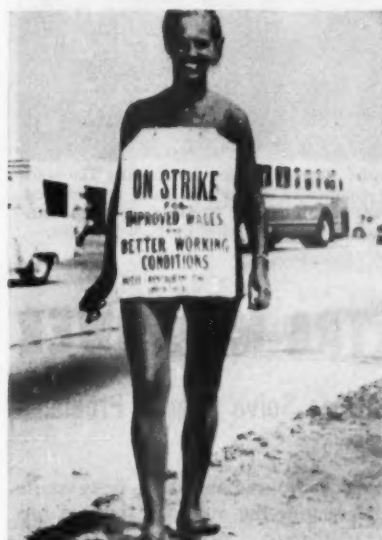
damages from payments due the contractor under subsequent contracts. He contends that a contractor's liability is not wiped out just because the government can't get into court inside of two years after violations.

The new policy means that contractors may still be out of pocket for W-H damages—even though the damages may not be enforceable in court. About 50 cases already on the books are affected.

Meanwhile, the Labor Dept.'s public contracts administrator also has taken notice of the statute-of-limitations decision by the Supreme Court. He announced recently that the two-year limit does not apply to administrative procedures or investigations.

• **Court Test**—The Unexcelled case is not out of the courts yet. Legality of the Comptroller General's ruling against returning the withheld \$15,600 will be tested in court. The legal controversy will therefore continue into new rounds.

LABOR BRIEFS



Hot weather in Pittsburgh prompted restaurant picket Betty Guest to do her stint in shorts and halter. Quipped another fully clad picket: "It's all right—but we want people to look at the sign, too."

• **Phone trouble**: A compromise this week ended the strike of 53,000 Southwestern Bell Telephone employees in 11 states (BW—Aug. 29'53,p144). Workers got basic wage increases of from \$1.50 to \$3 a week. The company won a partial victory on a demand for a "protection of service" clause designed to bar quickie strikes. . . . Meanwhile, Indiana Bell Telephone's bitter six-week strike continued at midweek. . . . Fed-

eral mediators kept up efforts to head off a threatened walkout of some 22,000 long-lines employees of American Telephone & Telegraph Co., and 19,000 CIO telephone workers in five northwestern states approved a new contract giving \$1 to \$3 weekly raises.

• **Hauling mail** by truck instead of train on runs of less than 300 miles would speed service and save money, AFL's Brotherhood of Teamsters says. The union, joined by employees' associations, is asking the government to extend mail trucking—started in early 1951—beyond the 250 routes now operating.

• **Wage settlements** in the last week include raises of 3¢ to 11¢ an hour for CIO employees of Westinghouse Electric Corp., and a package increase of 12¢ an hour—including a general 5¢ hourly raise—for CIO employees of Firestone Tire & Rubber Co. and B. F. Goodrich Co. Both Westinghouse and Firestone also agreed to boost pension payments.

• **Long strike** by CIO steelworkers at Stockham Valves & Fittings plant in Birmingham ended, after 17 weeks, with the union accepting a 6¢ hourly raise—the company's original, pre-strike offer. The union had sought an 8½¢ raise, its settlement figure for most steel employers in the Birmingham district.

• **It's safer on the job** than at home, by three to one, U. S. Steel's safety department has found out. Statistics derived from employee insurance records show that 17 out of every 1,000 U. S. Steel employees suffer lost-time accidents during leisure hours annually (national average: 45) as compared with about 6 of every 1,000 in the plants.

• **Carpenters** will probably be back in the AFL about the time the federation convenes for its annual convention in St. Louis Sept. 21. Negotiations to return the 800,000-member union to the AFL began within hours after the union's surprise withdrawal last month (BW—Aug. 22'53,p108). They are progressing.

The Pictures—Bill Clinkscales—Cover, 158, 159, 160, 161; Consolidated Vultee Aircraft Corp.—27 (top); Joern Gerds—80, 81, 82, 83; Int. News—23; Bob Isear—128, 129, 132, 134; Herb Kratochvil—132, 134; Mike Shea—58, 59, 60, 62; U.P.—27 (rt. bot.), 30; U. S. Army, official photo—26; Wide World—152.

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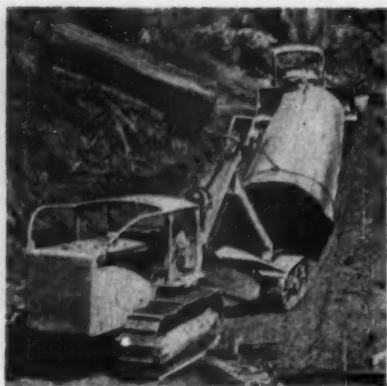
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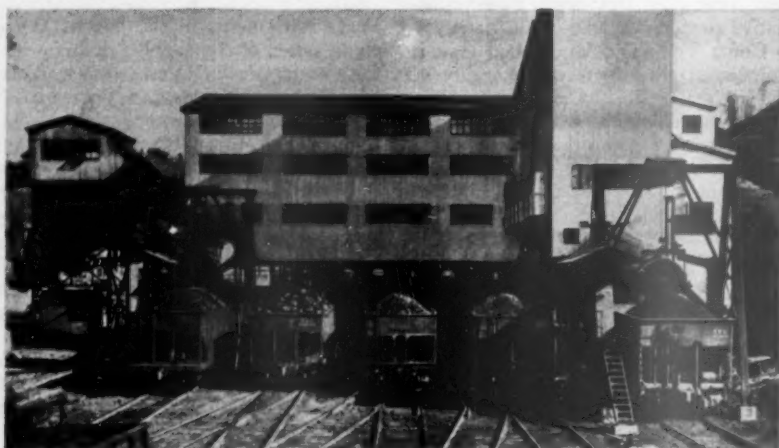
A LUMBER COMPANY called in Ebasco specialists to make an *engineering study*. Providing an unbiased outside viewpoint, the study was used to improve lumbering operations.



A BAKING CONCERN required assistance in making a *financial study*. Rather than add financial specialists to its permanent payroll, they called in Ebasco to do the job.



ONE OF THE LARGEST APPLIANCE MANUFACTURERS selected Ebasco to *design and build* this giant plant at Columbus, Ohio. When completed, it will be nearly half a mile long and capable of turning out 4,500 refrigerators a day.



A LARGE COAL COMPANY, requiring a *market study*, engaged Ebasco for the job. The study analyzed changes in the anthracite market, the company's dealer and sales organization, sales outlets, possible new uses and markets for anthracite. Ebasco has made sales and marketing studies of both wholesale and consumer markets in many other fields of business.

HOW BUSINESS AND INDUSTRY GET EXTRA MANPOWER

Companies Call on Outside Specialists to Solve Special Problems



A ROPE COMPANY engaged Ebasco to make a *business study* of its operations. This Ebasco report provided management of the company with a workable "blueprint for future action."

As industry grows, so do the problems industry faces. These problems are just as common—and just as complex—to small firms as they are to large corporations. That's why companies of different sizes, in different fields, call on Ebasco to supplement the personnel of their own organizations.

Ebasco specialists—men whose technical talents are at a premium in today's tight manpower market—provide these companies with required services without adding to permanent

payrolls, over-burdening busy staffs or wasting the valuable time of top executives.

Perhaps Ebasco can provide extra manpower to help solve *your* special business problems. For your copy of our booklet, "The Inside Story of Outside Help," write: Ebasco Services Incorporated, Dept. C, Two Rector Street, New York 6, N. Y.

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Ebasco Teamwork gets things done anywhere in the world

PERSONAL BUSINESS

BUSINESS WEEK

SEPT. 5, 1953



We're heading into the big fall moving season right now. That means that if you're joining the migration to a new home this year, you should start lining up a mover at once. He'll need plenty of notice to bring off the job smoothly.

If you haven't moved for five or 10 years, here's one thing you should know right off: You can expect to pay anywhere from three to six times the cost of your last move.

That applies both to long-distance moves across the continent and to a move to an apartment a block away from where you live now. The big rise is due, movers claim, to increased labor costs.

The important point is this: You won't get far shopping around for bargains. Most of the legitimate moving companies charge close to the same price. And if you do get a low price, you may be risking your possessions to carelessness, irresponsibility, and possible loss.

The basis for pricing a move differs according to whether it is local or long-distance. A local move (usually anything up to 50 miles) is figured on an hourly basis; right now the cost runs between \$15 and \$20 per hour.

Long-distance moves are based on (1) total weight, and (2) mileage. Interstate Commerce Commission regulates long-distance movers. That safeguards you to some extent in this way: A certified weighmaster must record the net weight on the bill of lading or the freight bill before the shipment goes out. That cuts the chance of an overcharge.

But the cost may still run higher than the estimate. Sometimes it's the customer's fault—he doesn't show the mover everything that's going. Sometimes it's due to the moving-company salesman—he's so anxious to get the order that he cuts down the estimate. You'll have to pay the final bill—but you'll feel you've been fleeced.

Best approach is to allow a margin for error on the low side. You can help get it more nearly accurate by being sure to call the mover's attention to everything you have in closets, attic, basement, etc. (Check the estimate against this rough rule of thumb: 1,200 lb. per room.)

Leave all but the superficial packing to the mover. Most companies have experts who will pack everything into cartons and barrels. They unpack and help arrange it at the new location.

This has two advantages: (1) It relieves you of the trouble; and (2) it puts the responsibility on the packer. (The carrier is not responsible for anything you pack yourself.)

You'll be wise to take out extra insurance coverage for the move. The mover's liability on a long-distance move, for example, comes to only 30¢ per pound per item. That means you may get nothing for a delicate glass vase that may be broken.

Most carriers will supply the added insurance. It runs at around \$5 per \$1,000 valuation.

There are some things you should do yourself. For example: Take down venetian blinds, draperies, rods, television antennas, and so on. Trans-

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

SEPT. 5, 1953

portation rates don't include these services; you will have to pay extra for them.

Also, pack small things and take them with you if possible. That applies particularly to jewelry, money, valuable papers, small knickknacks. Most movers won't take responsibility for valuables of this kind anyway.

Sign up your mover from three weeks to a month in advance. In addition, give him an option of three consecutive days for the actual move, rather than one day. Thus if you want to be out by the 25th of the month, tell him he can move you either on the 23rd, the 24th, or the 25th.

Above all, don't limit your moving date to the last day of the month. You may not make it.

September is the best month in the year to do your lawn seeding. Turf experts say that applies to every part of the U. S.

The warm days and cool nights of fall are ideal for giving perennial grasses a solid roothold. They'll have about two months of developing before winter takes hold in the northern parts of the country.

Moreover, lawns seeded in September will nearly always produce weed-free turf. That's because the weed-growing season is mostly over by now. The turf will be strong enough by next spring to keep weeds out.

Spring seeding, say the experts, is mostly a waste of time. Efforts to grow grass then tend to help along the crabgrass weed.

Before seeding in the fall, be sure to remove all crabgrass from the area. Best chemical for the job at this time of year is potassium cyanate.

Also, don't seed until you have thoroughly prepared the ground. This includes proper grading and tilling, the working in of fertilizers and soil conditioners. Remember it's easier to condition the soil before the lawn is made than afterward.

It's a good idea to have the soil tested to find lime and fertilizer requirements. And it's worth the expense to add humus to the topsoil while mixing. It will keep your lawn-quality high over the years.

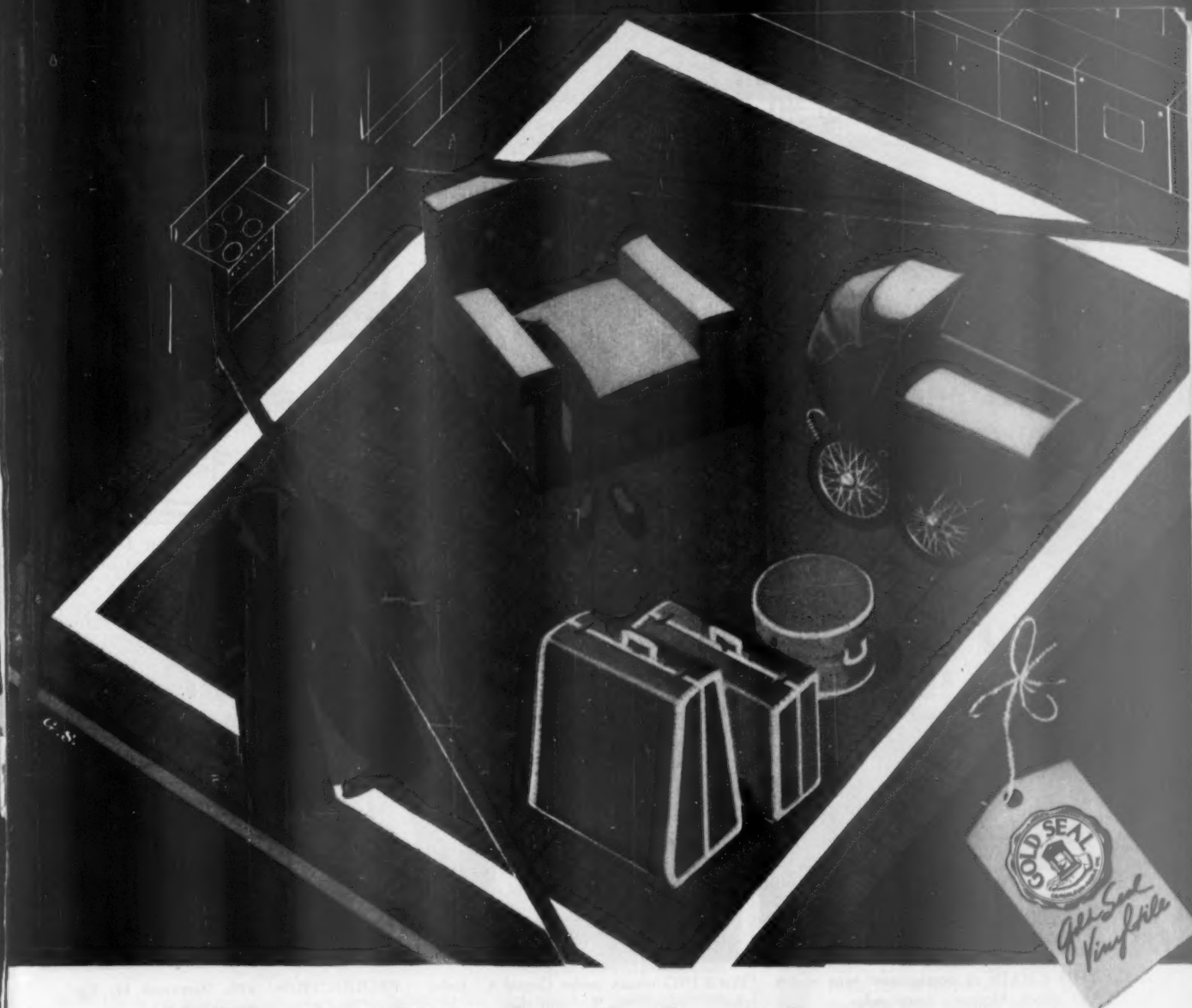
Note for your calendar: The third installment of your federal estimated income tax is due on Sept. 15.

You now can practice your golf strokes while keeping unnecessary exercise—such as stooping over—to a minimum.

A new practice machine holds 15 balls in a wire hopper. When you push a lever with the head of the club, a ball feeds through a tube, drops to a rubber tee, ready to hit. You can use regular balls outdoors, practice balls inside. The machine sells for \$10.95.

Continued research is making the sulfa drugs less toxic all the time. Tests on one sulfonamide called gantrisin show it to be as effective as sulfadiazine. Yet it's almost nontoxic.

Gantrisin produced no instances of bone-marrow depression (which would cut down blood-cell manufacture), no damage to kidneys or urinary tract, and no vomiting.



Marvinol® is loaded with ideas!

Think of the beating your floor has to take!

Congoleum-Nairn, largest manufacturers of floor and wall coverings in the nation, thought of it. And they use Marvinol vinyl for their Gold Seal VinylTile®. Why?

More lasting! Tough, flexible, resilient tiles made with Marvinol wear and wear—won't dry out, crack, pucker, or shrink, even exposed to a wide temperature range.

More beautiful! Marvinol can be given any *built-in* color or shade—beauty that *can't wear off*, won't fade in the strongest sunlight.

More practical! These tiles never need waxing for protec-

*Gold Seal VinylTile® by Congoleum-Nairn Inc., Kearny, N. J.

tion against wear! They resist scuffing, dirt, stains, grease, acids, and other common kitchen chemicals—come clean with a damp mop.

Marvinol can be extruded, calendered, molded, or laminated, formed into an amazingly wide variety of end products, including raincoats and shower curtains, shoe soles and welting, upholstery, wall and floor coverings, luggage, and chemical-resistant pipe.

Our sales engineers will be glad to talk over your specific product problems with you. For more about this partner to Naugatuck's VIBRIN® polyesters and KRALASTIC® rubber-resin blends, write on your company letterhead to the address below.



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COMPANIES



THIS CHAIN of management men makes McCulloch Motors a freewheeler.



THE AIM IS SALES, and Fred Breer handles that (above, right). The start is...



PLANNING—the job of John L. Ryde, vice-president (engineering). Next...



TOOLING comes under Gerald C. Robe-chaud, "veep" No. 3. And then...



PRODUCTION, with Sherwood H. Egbert, No. 4, in charge. But the...



A CHAIN REVOLVES around a hub—and it is secretary-treasurer Joseph Hegener.

It Pays to Do

When you bring out a brand-new supercharger and a new model chain saw in the same month—with a new fuel gauge thrown in—you have a feeling you are pretty well hitting on all cylinders.

For McCulloch Motors Corp. in Los Angeles, though, the announcements mean more than that. They mark several turning points for a fast-growing western manufacturer with (1) an unusual management philosophy and (2) a surprising variety of products. With it all, McCulloch is still making a fat profit.

The company has its own supercharger in 41-year-old Robert Paxton McCulloch, founder, president, and owner (cover). He works through what he calls a "closed chain" management with the "What to Do" and the "How



POWER to operate the chain comes from Robert Paxton McCulloch, founder, president, owner of McCulloch Motors Corp. He's the idea man, leaves detail to his lieutenants.

the Whole Job Yourself

to Do" and the "Do It" all meshing closely with the "Sell It."

With all this, though, McCulloch Motors is essentially a one-man outfit. McCulloch has no board of directors, gets things moving by "talking it over with the boys," and makes his personal touch felt right down to the lathe operators.

• **Make It Yourself**—There's something else in the McCulloch "closed chain" idea: self-sufficiency. That's been McCulloch's aim ever since the first day he contracted out a part. His chain saw manufacture, for example, is a complete operation. The company makes its own die castings, carburetors, gears, most other components for its products. It even makes most of its own machinery.

There are many reasons for that, but

McCulloch says, "Most of all you get the other guy's profit when you do the whole operation yourself."

He should know. His company's annual sales of \$30-million in the year just ended were more than seven times the 1949 figure—and net profit before taxes has run as high as 35%. That was two or three years ago. Though the present figure isn't on record, it has been slimmed down by tougher competition and by money spent on research and a big employee benefit program.

There are drawbacks to manufacturing in Southern California in the lack of a rounded industrial base and of the experience of the older East, as well as in the freight problem. But McCulloch has made his organization fully able to compete with many older and bigger

THE THRILL A MAN DESERVES



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Have you ever felt the thrill of breaking trail and coming onto country so virgin it seems you're the first to find and explore it? Why wait any longer? No need to go to Alaska or the Himalayas... right here in America are rugged wildernesses. There's no companion on such a trip like a Winchester Model 70 rifle. The finest rifle made in America or anywhere else, this rugged, bolt action beauty is available in eight different calibers. You'll explore and hunt to your heart's content...

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MODEL 70

- Winchester Proof (chrome-molybdenum) Steel.
- Low bolt handle for lowest scope mounting.
- American Walnut stock.
- Double locking lugs on bolt.
- Choice of eight calibers.

\$120.95

Price subject to change without notice

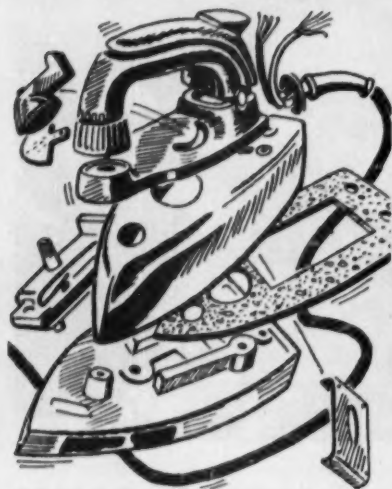
ANOTHER **Olin** PRODUCT

ARMS AND AMMUNITION DIVISION OF
OLIN INDUSTRIES, INC. NEW HAVEN 4, CONN.



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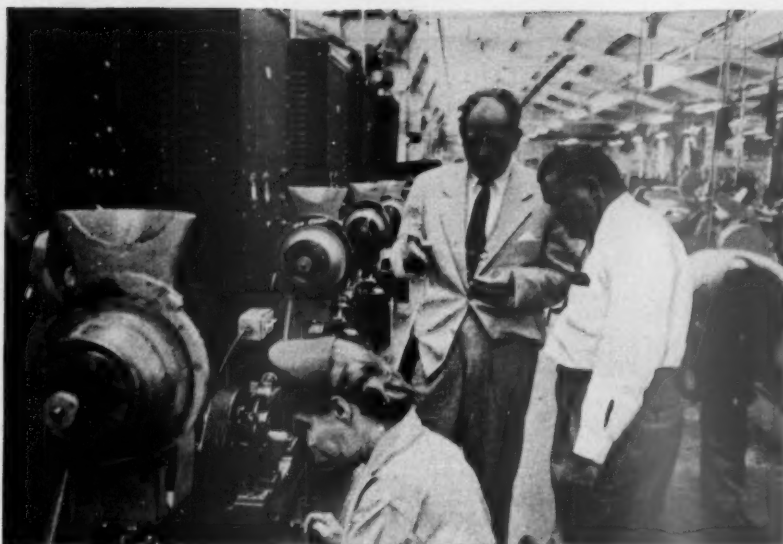
So take a tip from Lamson and pay attention to the bolts, nuts and screws that go into your product. Chances are there are many opportunities for you to save time and money on the assembly line by using more efficient, or less expensive fasteners.

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The home of "Quality Controlled" fasteners



OPEN-HANDED is McCulloch's policy with competitors. He shows them everything he's doing, but aims to keep far enough ahead so they can't catch up with him.

manufacturers. He competes in the East, too; 60% of his chain saws are sold there, for example.

I. Getting There

There's one thing that's not closed in the McCulloch setup—the product line. McCulloch has built up a company that's so freewheeling it can turn on a dime in making improvements in its products or bringing out new ones. In the last few years he has been pointing the company in a number of new directions, including Detroit.

That's not so far, product-wise, from where he started.

That was back in Milwaukee, shortly after McCulloch got his M.E. degree from Stanford University in 1931. His initials spell RPM, and it was his love of rpm that took him into racing outboard motor boats and winning the national outboard championship while at the university.

With his degree in his pocket, he worked just one month in Milwaukee for someone else, then launched his own enterprise—building and racing midget automobiles. That led him into a supercharger, which was approaching the \$4-million-a-year sales mark when he sold it to Borg-Warner Corp. in 1943.

Then came McCulloch Aviation, Inc., which built lightweight gasoline engines for paratrooper generator sets, for target aircraft and for other military uses.

• **Moving Day**—War's end seemed a logical time for a move to California that McCulloch had long contemplated. So in January, 1946, he transferred to Los Angeles, taking 33 employees with him. He picked a factory

site near the Los Angeles International Airport.

To provide housing for his people coming from Milwaukee he bought in one transaction 13 houses and four four-unit apartment houses.

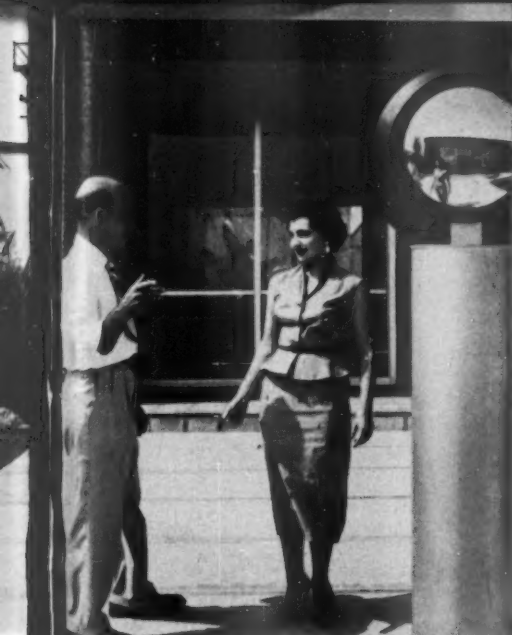
• **Branching Out**—When he moved, McCulloch had orders for target plane engines for the armed forces, engines for Reed-Prentice Corp.'s chain saws and for several companies' lawn mowers. When he began getting inquiries from other companies for chain saw motors, he felt the market was hot. He was convinced he could build a better complete chain saw—and make more profit that way.

So McCulloch brought out its first complete chain saw in July, 1948—and in 18 months, the company claims, it had 60% of the market. That's when McCulloch changed the name to McCulloch Motors Corp. to show the broader field.

The market has grown since then and many new competitors have come in, but McCulloch retains 25% of total sales and the chain saw is still a company staple. This month it is bringing out a brand new model—a 2.1 horsepower model weighing only 20 lb.—designed for a new market, for farmers, home owners, ranchers, hunters, others who need firewood for cooking or heating.

• **More and More**—The new supercharger announced this week takes McCulloch back into the automotive industry. He also counts on it to balance the seasonal chain saw business.

McCulloch started thinking about another supercharger, he says, "10 minutes after I sold the old one to Borg-Warner." But it took his engineers 10 years to satisfy the six specifications he



OPEN-ENDED is his product line. It's wide-angle, like the Air Force lens.

set up. These were: (1) noise at minimum; (2) low cost production; (3) one model adaptable to all standard auto engines; (4) boost pressure available at normal engine cruising speeds; (5) service life equal to that of engine; and (6) independent lubrication with capacity to operate 4,000 mi.

The supercharger is a centrifugal type with a variable speed drive. It's adaptable to commercial and marine engines, and McCulloch makes a point of the fact that it's not a hot rod device.

He's prepared to build it in kit form, for all makes and models, starting with Ford-Mercury. But he'd dearly love to have one manufacturer specify it as standard equipment and take over the major burden of distribution.

II. Youth Links the Chain

If McCulloch's hopes for the supercharger work out, total sales of the company and subsidiaries may reach \$35-million to \$40-million in the fiscal year ending next June. They have jumped from \$4.2-million in 1949 to \$18-million in 1951 and \$30-million in the year just ended.

McCulloch thinks his supercharged chain saw type of management has sparked much of this growth. That, and the youthful links in the chain.

Engineering under vice-president John Ryde, 40, takes things from idea to final drawing, works closely with tooling under vice-president Gerald Robe-chaud, 48. Tooling prepares dies and techniques, works with production under 33-year-old vice-president Sherwood Egbert. And production meshes in with sales, meeting special orders and keeping sales informed of production dates. Fred Breer, 34, is sales vice-



No Longer Dangerous

Here's another instance where a starch product has a unique use.

Formerly, talc was used exclusively to make these innocent-looking rubber surgical gloves slip on more easily.

This apparently innocuous powder occasionally found its way into open incisions. And even though it was sterilized, it sometimes caused serious post-operative adhesions and granulomas.

Imaginative starch research* helped to remove this danger.

Today, **BIO-SORB**,[®] a safe, non-irritating starch product, that has excellent dusting properties and may be steam sterilized without becoming sticky or gummy, has replaced talc. Extensive use has shown that **BIO-SORB** can be safely and rapidly absorbed by even the most delicate membranes.

*The Research Laboratories of National Starch Products and Johnson & Johnson developed **BIO-SORB**. National's starch specialty **VULCA 100** is a major ingredient.

Ethicon Suture Laboratories (Subsidiary of Johnson & Johnson) sell **BIO-SORB** which is now widely used by the medical profession.



STARCHES

National
RESYNS[®]

ADHESIVES

NATIONAL STARCH PRODUCTS INC.
270 Madison Avenue, New York 16, N. Y.

E N-R IS THERE AS Construction Men Spend



SKY, MOUNTAINS AND CONCRETE at \$43,000,000 Hungry Horse Dam, world's fourth largest. The three prime contractors in this joint-venture receive 91 copies of News-Record every week. 280 subscriptions to E N-R go to the Bureau of Reclamation.

\$80-Million Per Day

Construction men will spend more than \$30-billion in 1953 on projects like these. Each project will be a new adventure—will never have been done before and will never be done again under the same circumstances.

New and unique problems will pop up—in labor relations, in financing, in logistics, costs, legalities, governmental policies, equipment maintenance, materials availability and so on. But all these problems will be licked by the same type of people, applying the same fundamental principles and using the same materials and equipment. Thus, each project, though unique, will really be just a re-shuffle—a new combination of many common elements.

One of these common elements wherever men are building is the weekly copy of Engineering News-Record. Because it reports *all* the news of *all* the forces and factors that are construction, it's the only publication that helps these heavy-spending men with *all* their problems, on *all* their projects. That's why, wherever and whenever buying decisions are made, E N-R is there.

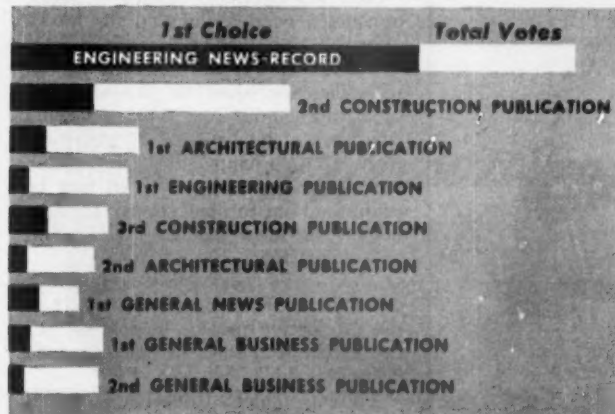
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CONSTRUCTION MEN PREFER E N-R. \$55,000,000 building construction firm has worked in fifteen states in past two years. All levels of management, executive and supervisory personnel surveyed by its own management as to reading habits. Here are results:



Surveys conducted by more than 30 other important construction firms show same pattern.



GLASS UNDER GLASS at the new Lever Building in New York. Under the glass exterior is cellular glass for insulation. E N-R was there every week during construction. Subscriptions go like this: owner—2; architect—22; consulting engineer—2; contractor—107; electrical contractor—7.



COSTLY CURVICUES. 118-mile New Jersey Turnpike cost almost \$2-million per mile. NJTP Authority made a readership survey among the 37 firms who built the high-speed highway—result was News-Record, ten to one, for most useful publication. When contracts were awarded, firms who got the business were already receiving 636 copies of E N-R every week. By the time the road was completed, E N-R was there with 1,007 paid copies weekly.



MASS BUT MODERN HOUSING. Parklarea in Los Angeles, one of three modern housing developments owned by a major insurance company. In addition to 11 E N-R subscriptions to the contractor, the insurance company gets three copies every week.



Give heavy traffic the go by— GO PULLMAN

You pass up highway headaches on a Pullman. You're comfortable—relaxed—and you're saving time. And if you want, you can rent a car when you get there. Ask the man who sells Pullman tickets about it.


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president. He closes the circle by meshing back with engineering: There's no point in designing something that can't be sold.

The whole chain revolves around 41-year-old Joseph Hegener, secretary-treasurer, who keeps everything in line from a legal and economic viewpoint.

McCulloch believes this is a good way to divide responsibilities and to promote easy working together. He gives his lieutenants broad responsibility—with the tools and the authority they need. He's the idea man, and takes no time with details he feels are better handled by his staff.

• **Man-to-Man**—But that doesn't mean his influence isn't felt throughout the organization. Everything at McCulloch is on a person-to-person level. There are no bulletin boards, for example, and the word is passed around on man-to-man basis. Three days a week there's a meeting of the four department heads. From there the word goes out through supervisors to foremen to leadmen—and within an hour it gets to every employee.

And McCulloch's feeling for the other guy's headaches is such that he spends a great deal of time on employee problems. He listens when an employee has a beef.

Benefits for the 2,000 employees are extensive. In addition to bonuses, McCulloch had built a \$1-million cafeteria and recreation center, with bowling alley, theater, lounge, air-conditioned clothes lockers to dry out work clothes. McCulloch says he's not "giving" the employees anything, though; they earn it.

III. The Steam

Maybe that's also part of the McCulloch "closed chain" that works so well in management and in self-sufficient, integrated operations. The self-sufficient part of it is valuable, McCulloch says, because you can control the quality of the end product, improve your scheduling so you can make rapid changes, and save money.

And self-sufficiency builds strength, provides a good foundation for broadening your product line.

McCulloch began thinking about self-sufficiency when he showed three Los Angeles die casters a somewhat complicated die he wanted. All three threw up their hands in horror. McCulloch broke it up into 21 parts that he could send out to small shops. Then he bought his own machines to do his own die casting.

McCulloch goes all out for tooling, considers it the most important part of the production process—that's why it's one of the four links in management's "closed chain."

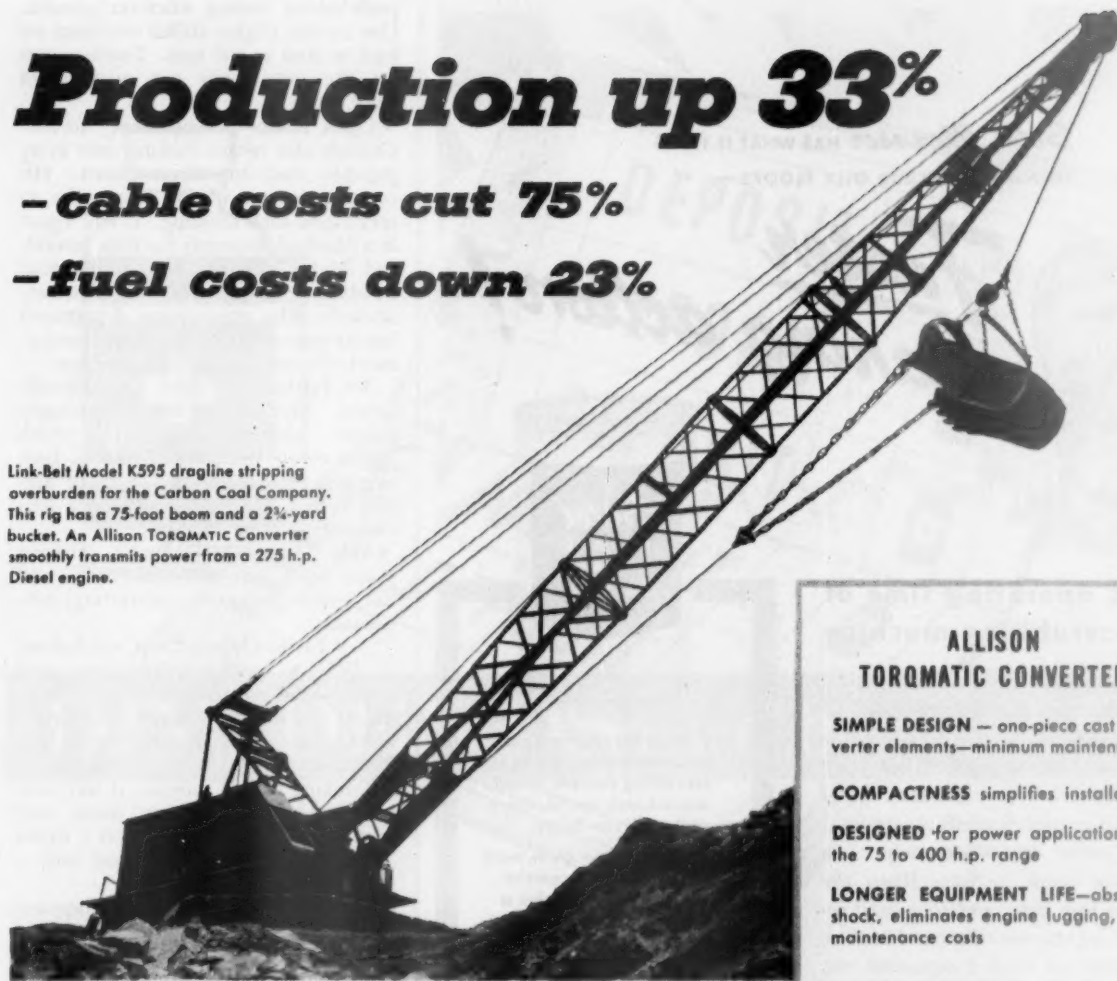
Tooling chief Robechaud builds

Production up 33%

- cable costs cut 75%

- fuel costs down 23%

Link-Belt Model K595 dragline stripping overburden for the Carbon Coal Company. This rig has a 75-foot boom and a 2¼-yard bucket. An Allison TORQMATIC Converter smoothly transmits power from a 275 h.p. Diesel engine.



ALLISON TORQMATIC CONVERTER

SIMPLE DESIGN — one-piece cast converter elements—minimum maintenance

COMPACTNESS simplifies installation

DESIGNED for power applications in the 75 to 400 h.p. range

LONGER EQUIPMENT LIFE—absorbs shock, eliminates engine lugging, cuts maintenance costs

Here's another operator who's boosting production and cutting costs with Allison TORQMATIC DRIVES: The Carbon Coal Company operates two Link-Belt draglines, strip-mining coal near Grove City, Pa. The units are nearly identical—one has an Allison TORQMATIC Converter, the other is direct-driven—but there's a big difference in operating costs and production.

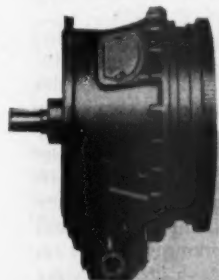
The Allison Converter absorbs shock loads so dragline cable on the

TORQMATIC-equipped unit lasts four times as long, *saving \$2160 a year on cable alone*, a reduction of 75%.

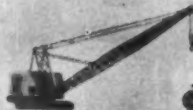
The TORQMATIC-equipped unit strips a 60x40x25 foot "lift" of overburden in 24 hours against 32 hours for the direct-driven unit, a 33% increase in production. A comparison of daily fuel records shows the friction drive unit consumes 130 gallons while the Converter-equipped unit uses only 100 gallons, a cut in fuel costs of 23%.

The TORQMATIC-equipped unit has rolled up such an impressive performance record that this operator intends to specify TORQMATIC DRIVES in all his new heavy-duty equipment. You, too, can cut your costs by specifying Allison TORQMATIC DRIVES the next time you buy. Ask your equipment dealer, manufacturer or write:

ALLISON DIVISION OF GENERAL MOTORS
Box 8948B, Indianapolis 6, Indiana



Allison TORQMATIC DRIVES



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push-button tooling wherever possible. One reason: Highly skilled workmen are hard to find in the area. Tooling costs for the new chain saw were about \$600,000.

• **Open Roads**—Self-sufficiency to McCulloch also means looking into every possible road for advancement. His company is one of the few so far to investigate shell molding. It had a part in a Stanford Research Institute project, and McCulloch has put up a special building at his plant for the continued research. His engineering department has its own unit for long-range development—Paxton Engineering Division.

To further his drive for self-sufficiency, McCulloch last fall bought Exacto Manufacturing Co., which makes metal stampings. And in June this year he bought the assets of Surface Alloys, Inc., which will give him complete plating facilities.

• **Side Lines**—McCulloch's driving power takes him into many fields and has given him two interesting subsidiaries:

• **Pacific Optical Corp.** was formed in 1951 to mass-produce plastic and glass optical elements, particularly prisms and lenses of large size. Pacific is doing mostly government work, but has its eye on commercial business and is thinking of 3-D movies. It has built two lenses with this in mind, and McCulloch is also working on a stereo 3-D that needs no glasses and only a single film.

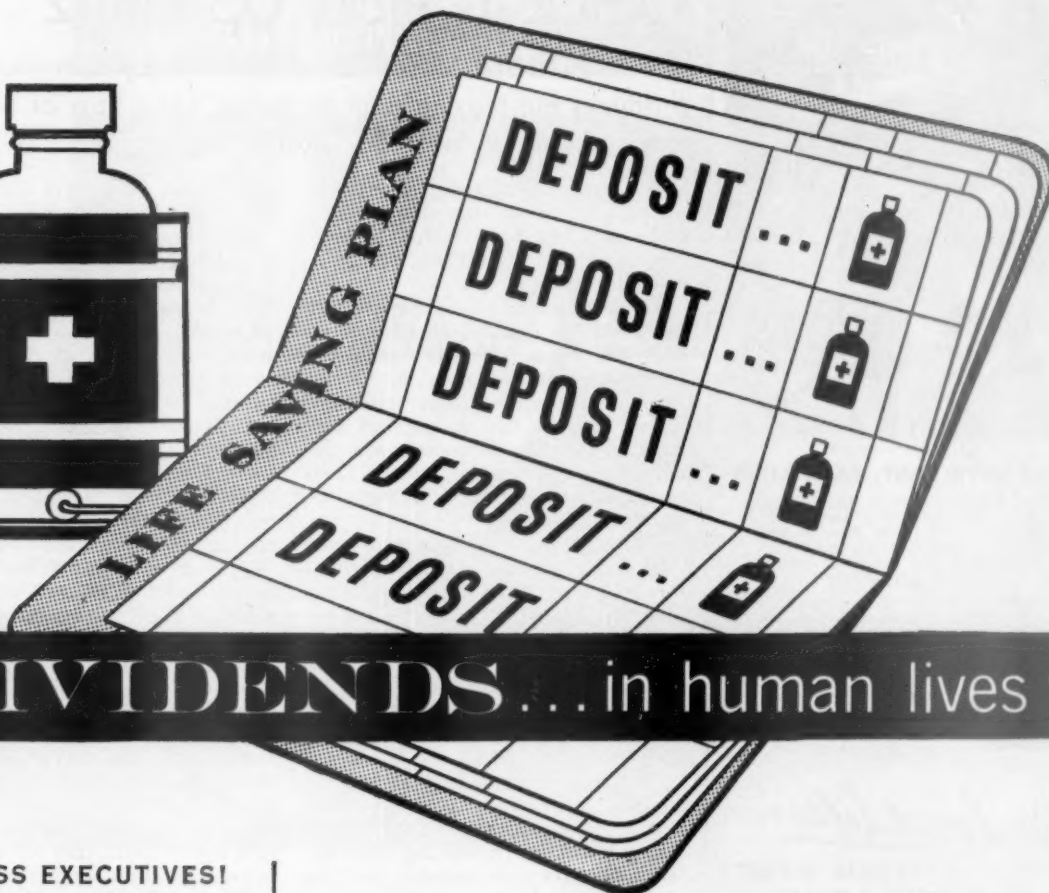
• **Rhodes-Lewis Co.**, an engineering and manufacturing firm, was bought in July, 1951, and McCulloch figured then it would take him five years to get it out of the hole. He moved it from Culver City to his own property, and already it's doing nicely, making aircraft armament and other accessories, axial-flow blowers, high-pressure pneumatic systems.

Another sideline hasn't got off the ground yet. That's the project for a two-passenger helicopter selling for \$10,000, also started in 1951.

• **Main Track**—But McCulloch expects to continue to focus his business on motors and equipment built around motors. In line with this, he's actively exploring the automobile accessory market. A fuel meter he's announcing this month shows fuel consumption to the nearest 1/100 of a gallon.

His research department has also been tinkering with a two-cycle automobile engine. McCulloch thinks the group is only a year or so away from two good models—a four-cylinder straight and a six-cylinder "V" type.

That may not be the end of McCulloch's automobile road. He has a fancy sports car built up in his factory, and he's been quietly working for years on—hold onto your hats—a steam engine for autos.



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Omnibus Picks Up Hertz

Purchase of car rental business by Omnibus Corp. produces bus-leasing plan to merge know-how of both systems. Omnibus looks for profits step-up, too.

In Detroit this week final papers were signed transferring ownership of the Hertz car and truck rental business from General Motors Corp. to Omnibus Corp., Chicago.

Even before the final closing, canny Benjamin Weintraub, Omnibus president, had hit on a plan to expand the Hertz-Omnibus operations far beyond their present scope. And this plan, logically enough, was designed to capitalize on both Hertz's know-how in the motor vehicle leasing business and Omnibus' long experience as an urban bus line operator.

The plan, while still in the study stage, envisions the extension of the leasing system to bus operations. Thus a bus line operator could lease needed equipment from Omnibus and:

(1) Eliminate the necessity for tying up considerable capital in vehicles.

(2) Shift to Omnibus (if desired) the responsibility for maintaining and servicing the rolling stock.

(3) Set up a definite expense item for equipment rental—an attractive situation in figuring income taxes and establishing a base for rate-making purposes.

• **Interim**—Omnibus probably won't be ready to go into bus-leasing for some months. It will require careful and detailed studies on costs, potential market, and the like, before Omnibus directors will commit the company.

In the meantime, Weintraub and his associates will concentrate their efforts on building up Hertz's well-established and profitable car and truck leasing business. For here, too, he sees a terrific potential for growth—plus an opportunity for profits that can't be approached in bus line operations.

• **Two Cities**—Up to now, Omnibus has devoted its attention entirely to bus line operation, except for subsidiaries engaged in purchasing supplies for some of its lines. And its story has been mainly a tale of two cities—New York and Chicago.

Omnibus Corp. itself functions as a holding company. In Chicago, it was until 1952 sole owner of Chicago Motor Coach Co., operator of buses in that city. In New York, it owns all but 88 of 240,000 outstanding shares in Manhattan's pioneer bus line, the Fifth Avenue Coach Co., and has a 35% interest in New York City Omnibus Corp., operating 83 mi. of routes. (The other 65% is widely dispersed.) Fifth Avenue, through subsidiaries, also supplies interstate and international bus

service from New York City through New York State to Canada.

Last year New York City Omnibus earned \$1,250,000, of which \$175,126 came to Omnibus Corp. as dividends; Fifth Avenue Coach lost \$264,000.

• **Opening**—Omnibus' opportunity for diversifying within the field of transportation results from a fortunate misfortune.

Last year it was forced to sell the fairly profitable Chicago Motor Coach Co. to Chicago Transit Authority (BW—Aug. 30 '52, p63). The deal left Omnibus with a fistful of cash but little earning capacity. With the \$16.5-million obtained in that deal, it retired its 8% preferred stock for \$7.1-million, paid off \$2.5-million in equipment obligations, \$2-million in taxes, \$2.4-million in other obligations. This left it \$2.5-million, which it wanted to put to work.

While Omnibus executives were searching for a worthwhile investment, they heard that General Motors wanted to get rid of Hertz. The auto maker's dealers never had liked the fact that GM owned Hertz; they felt Hertz competed with them for business.

• **Closing It**—When the Omnibus people took a look at Hertz, they liked what they saw. For Hertz in 1952 had a net of \$1.2-million, three times as much as Chicago Motor Coach had earned in the nine months of the year it was under Omnibus ownership, and one-third over Omnibus' earnings (Omnibus' 1952 net was \$914,000).

A \$9-million bank borrowing was quickly arranged, and Omnibus sealed the deal for Hertz, paying somewhere near \$11-million in cash for the property and assuming Hertz's obligations.

For this it got the seven Hertz Drive-Your-Self companies, operating in 31 cities. With this went some 5,700 trucks and 2,220 autos used in the rental and leasing business. Omnibus also took over the contract under which independent operators in 520 other cities operate as Hertz licensees. These licensees own enough vehicles to bring the Hertz system total to 22,000.

• **Coming Back**—The Hertz-Omnibus deal, interestingly, marks the reassociation of the Hertz System with the man who founded the car rental business and after whom it was named—John Hertz. (He now is a partner in Lehman Bros., investment bankers.) For Hertz is and has long been a director of Omnibus. The story is this:



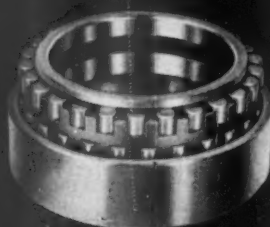
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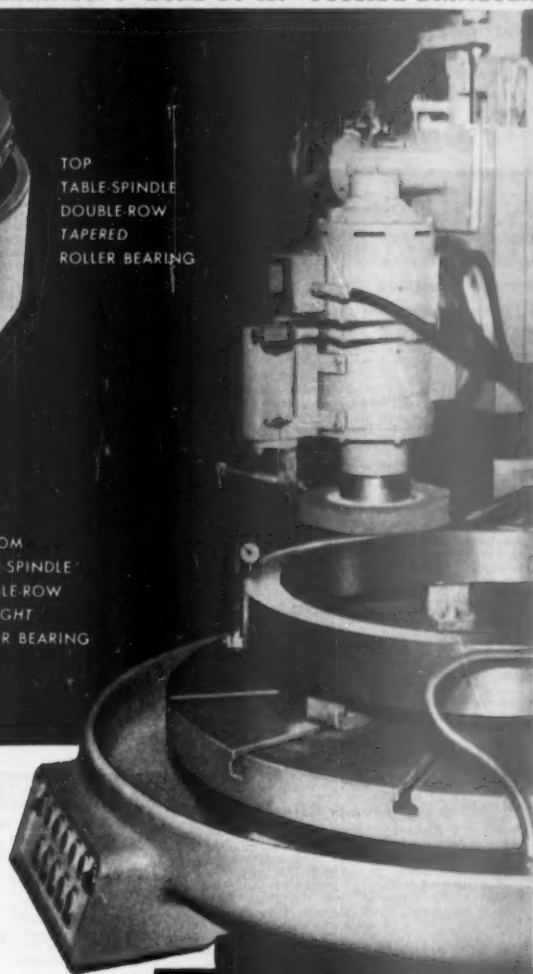


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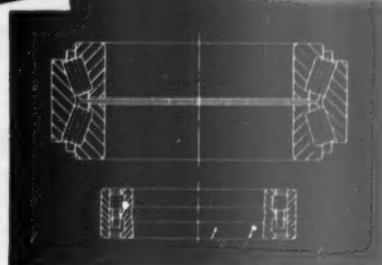
BOTTOM
TABLE-SPINDLE
DOUBLE-ROW
STRAIGHT
ROLLER BEARING



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Cross-section showing top double-row tapered, and bottom double-row straight roller bearings, engineered and produced by KAYDON for Frauenthal Grinders.

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Wanted: Lecturer, teacher, industrial engineer with strong background in sales, administration, or research in industrial sanitation. Must be free to travel extensively for one year. Please write Mohe H. Holworth, Cost Control Clinics, 2934 Cleveland Blvd., Louisville, Ky.

Graduate Mechanical Engineer holding Marine Chief Engineer's License capable making own surveys and reports hulls, machinery, boilers wanted for foreign assignment minimum 3 years. State complete detail background, references, experience, salary desired. P-9013, Business Week.

Selling Opportunity Offered

Manufacturer's Representatives wanted by leading manufacturer of Rust Preventative Coatings for maintenance work: Sell distributors and assist their men in selling industrial accounts. Exclusive territories available. Give full details, territory covered, etc. in first letter. Rust-Sele Company, 9808 Meech, Cleveland 5, Ohio.

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Installment finance executive. Sixteen years with national concern, operations and sales experience, college graduate, married, owns home, age 39. Still employed, desires change for advancement opportunities. PW-9016, Business Week.

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CPA—Attorney; Harvard, MBA. Diversified experience, internal audit, taxes, accounting, insurance. Age 37. Objective—treasurer or controller. PW-9004, Business Week.

Selling Opportunity Wanted

Manufacturers agent wants additional specialty Hdw. Plastics or allied line. W. E. Iredale, 343 Railway Vancouver, Canada.

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Shortly after World War I, Hertz headed the Yellow Cab Co. of Chicago. He also headed the Yellow Cab Mfg. Co., which made cabs for his firm and for Yellow Cab franchise holders in other cities.

In 1922 he approached John A. Ritchie, then president of Fifth Avenue Coach, and sold Ritchie on the idea of helping start Chicago Motor Coach Co. to take over the assets of a bankrupt predecessor company. Ritchie and Hertz were convinced the company could be switched from a boulevard sightseeing service to an urban transit line. So Hertz, Ritchie and some associates swung the deal, and Ritchie was made president.

• **Newcomer—Working with Ritchie** in New York was Ben Weintraub, the man who designed and built the first double-deck buses for Fifth Avenue Coach. Ritchie brought Weintraub with him to his new Chicago job.

To provide buses for Chicago Motor Coach, Hertz set up a Yellow Coach Mfg. Co. Weintraub had a hand in developing coach designs and specifications. As an adjunct of his cab and coach manufacturing business, Hertz also started the car rental business under the Hertz Drive-Yourself name.

But the middle 1920s, General Motors became interested in the market potential for buses, purchased the cab and coach making properties from Hertz. Hertz Drive-Yourself went to GM in the package deal.

About this same time, Omnibus Corp. was set up as a holding company owning both Chicago Motor Coach and Fifth Avenue Coach. In 1929 it bought into New York City Railways Co., whose name subsequently was changed to New York City Omnibus as buses replaced trolley cars on its runs.

COMPANIES BRIEFS

Five companies got Air Force invitations to bid on new contracts to build C-123 military transports. Among them was Willys Motors, Inc., subsidiary of the Kaiser company that lost the original contract (BW-Jul. 4 '53, p33). Willys said, "No, thanks." The other four are North American, Glenn L. Martin, Lockheed, and Convair.

• **Moto-Mower Co.** of Detroit was bought by Detroit Harvester Co. through purchase of stock. The company makes a dozen models of reel and rotary power mowers.

• **Air taxi operators** (BW-Jan. 31 '53, p142) will soon be allowed by CAB to use "airline" or "airways" in their company names.

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Action Now

President Eisenhower's praise for Lewis W. Douglas' report on international trade means more than does the report itself. For in describing it as a "valuable contribution," he was, by inference, endorsing Douglas' view that we must liberalize our restrictive foreign economic policies. Liberalization has long been the battle cry of the free traders, and the President's favorable reaction lends new impetus to the fight (BW—Aug. 29 '53, p26).

Before any positive action can be expected, however, we must wait for the report of the Foreign Economic Policy Commission headed by Clarence Randall. It has the job of coming up with new recommendations that will form the basis for a complete overhaul of our present policies. Unfortunately this report is not due until Mar. 6, 1954, so that any new legislation is unlikely to reach Congress before April or May.

Under ordinary circumstances the more time and study spent in formulating such legislation the better. But as the Douglas report hinted, these are not ordinary times. The United States has a grave responsibility to the rest of the free world. Europe's economic and political tension might subside if our allies knew that their chances of selling goods to the U.S. will not continue to be blocked by our outmoded policies. Moreover, we already have a wealth of reports and studies that should go a long way toward simplifying the Commission's task.

In fact, it should be possible for the Commission to make its survey of the problem both rapidly and well. It should come up with recommendations before the beginning of the next Congressional session. This would pave the way for an early overhauling of our present policies. The sooner this is done the better it will be for the cause of freer trade.

Down the Drain

The Administration is making commendable efforts to cut down on unnecessary and extravagant activities. There has been extensive budget cutting, for example, in the field of federal research projects. Here, the Defense Dept. has taken the lead. Its latest move was to drop the controversial "input-output program" that was begun four years ago (BW—Aug. 29 '53, p26).

Developed by Wassily Leontieff, of Harvard, the input-output program is a device designed to give more accurate information on industry's supply-demand relationship. Its sponsors claim that its forecasts could mean a big cut in the cost of defense production. By the same token it could also mean vast savings for private enterprise.

There is no denying that federal budget paring, even of research, is all to the good. Some projects should never have been started in the first place. Others can be carried out just as well by private industry, and there are still others that are definitely postponable. But the input-output project fits none of these categories.

This is because it depends on a mass of statistical information that only the government can acquire. The big question is whether we should consider the program from the standpoint of present budget requirements or of its potential future value.

Admittedly input-output has not enjoyed the wholehearted support of all industrial leaders. Some fear it might result in push-button planning and increased government control. In addition, the fact that the project has been slow in getting into effective operation has undoubtedly created a bad reaction.

Thus the project has been written off on the grounds that it does not have direct national defense use. Cutting out this project now does not, however, appear to be good business practice. It is being discontinued at a time when it was being readied for its first big test run. As it stands now, we will never know if it will give us more defense production for less money and less materiel, which, in government and out, is the chief aim of good business.

It is still not too late to reconsider.

A major test would help to settle the question and save money both ways. If it's a success, the expenditures to date would, of course, be justified. And if it is a failure, we would at least be spared the expense some future officials may incur by starting the project up all over again.

But cutting input-output before we have the answer is not good housekeeping. All it means is that we are throwing good money down the drain.

Whistling in the Dark

The newsletter of the National Automobile Dealers Assn. departed from its usual flow of trade talk to offer its members a bit of psychological advice. When talking with the press, it urges, be careful not to give them "a lot of depression-making fuel." The reason: Such talk "might produce the recession that can and will really hurt."

We would not deny that the psychological attitudes of businessmen have a lot to do with their actions. It is also true that the widespread notion that we are heading for a recession may eventually be borne out by events. Yet a state of mind is usually based on fact, and to ignore the solid grounds from which psychological feelings usually derive is to live in a fool's paradise. We have only to look back to that walking-in-the-clouds era of the 20s when nearly everybody thought that all our economy could do was go up.

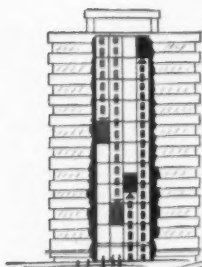
Talking about recession, like talk about a boom, will not, by itself, produce one. But suppressing information or even worse, offering false information, can only bring trouble. We need all the accurate information that we can get about our economy, in order to be better prepared for whatever lies ahead. Unless businessmen everywhere cooperate in providing reliable information, there's bound to be real danger, especially for those who are whistling in the dark.



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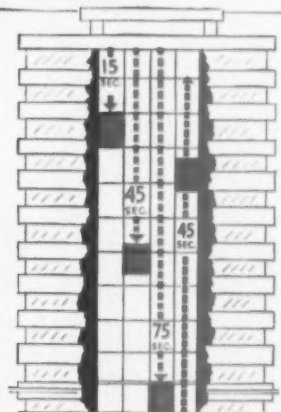
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and 2 cars down, 2 cars up*

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MORE
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